

**National Aeronautics and Space Administration**

***STRATEGIC HUMAN CAPITAL  
IMPLEMENTATION PLAN***

**Revision 1  
March 2004**

## **SECTION 1.0 INTRODUCTION**

The NASA Strategic Human Capital Plan (SHCP) establishes a systematic, Agencywide approach to human capital management, aligned with the Agency's vision and mission. The Plan is based on an architecture consisting of five human capital pillars, and their associated goals, and strategies and addresses them in the context of an assessment of NASA's current state with respect to human capital management – leading to summary goal statements, problems, improvement initiatives, and intended outcomes. They serve as a roadmap that, when followed, will strengthen the Agency in the areas where new requirements have arisen or where continuing improvement is warranted. The detailed goals and strategies for the five pillars are contained in Section 2, Table 1, of this Strategic Human Capital Implementation Plan (SHCIP). The table was developed through a coordinated effort of an Agency team of senior managers that evaluated the Agency's current posture, the desired future posture, and the vision and mission of the Agency. The resultant goals and strategies described to achieve the desired future state were used to derive the improvement initiatives summarized in Section 3 and detailed in Section 4.

NASA has already taken many steps to address the workforce issues that have arisen due to downsizing and skills imbalances, projected retirements, and the potential shrinking pipeline of future talent. Examples of previous and ongoing initiatives and activities addressing workforce issues are included in Appendix A. In addition, the Agency is actively involved in the identification of improvements and elimination, where feasible, of barriers to our human capital management effort via the One NASA and Columbia Accident Investigation Report activities.

This SHCIP addresses an updated assessment of improvement initiatives NASA has identified and will pursue to improve the Agency's human capital management. These improvement initiatives and related issues are further described in specific high level Action plans (Section 4). Although these initiatives are not the only activities being carried out by the Agency with respect to human capital, they are the important new improvement initiatives the Agency has determined are required for mission success.

Section 5 of this SHCIP outlines the critical high-level metrics required to monitor progress and manage the results of the new initiatives. They will also be used by NASA leadership, where necessary, to stimulate analysis to determine root causes of problems that the metrics might indicate. They enable the Agency to identify areas for improvement while not overburdening the resources required for high-quality measurement and assessment to occur.

As stated in the SHCP, effective implementation and integration of the NASA Strategic Human Capital Plan into the Agency's day-to-day operations requires the commitment of the entire NASA organization. Agency and Center senior management manage the Agency workforce on a day-to-day basis and are accountable for managing this critical resource efficiently and effectively. The Roles and Responsibilities Table from the

SHCP is reproduced below<sup>1</sup>:

<b>Roles and Responsibilities</b>	
Agency and Center Senior Management	<ul style="list-style-type: none"> <li>• Committing to an integrated, Agencywide approach to human capital management</li> <li>• Clearly communicating commitment and support for implementation</li> <li>• Holding managers accountable for results</li> </ul>
NASA Chief Human Capital Officer, Agency Office of Human Resources, and Center Human Resources Offices	<ul style="list-style-type: none"> <li>• Providing timely workforce planning and analysis</li> <li>• Periodically assessing internal and external factors that may affect the Agency's ability to obtain and retain a highly skilled, productive workforce</li> <li>• Participating early in program planning and implementation with respect to resource requirements</li> <li>• Developing human capital programs, practices, and tools that support the Agency's ability to achieve mission success, with input from Enterprises and Centers</li> <li>• Assessing and reporting Agency and Center progress in human capital management</li> <li>• Identifying impediments to and opportunities for improvement in management of human capital</li> </ul>
Enterprises and Centers	<ul style="list-style-type: none"> <li>• Participating in the development and implementation of the SHCP improvement initiatives</li> <li>• Incorporating human capital considerations in Enterprise Strategic Plans and Center Implementation Plans</li> <li>• Assuring that individual Center and Enterprise human capital strategies are aligned with the Agency Strategic Human Capital architecture</li> <li>• Making effective use of human capital-related data, programs, practices, and tools</li> <li>• Providing data to support human capital-related metrics</li> <li>• Identifying impediments to and opportunities for improvement in management of human capital</li> <li>• Producing the desired human capital results</li> </ul>
Headquarters Functional Offices	<ul style="list-style-type: none"> <li>• Identifying/making recommendations on human capital issues effecting functional support to Agency mission</li> </ul>

<sup>1</sup>This reprinted chart reflects minor editorial updates from the version printed in the NASA SHCP.

## SECTION 2.0: NASA’S HUMAN CAPITAL PILLARS, GOALS, AND STRATEGIES

Table 1. NASA's Strategic Human Capital Plan Pillars, Goals, and Strategies		
PILLAR	GOAL	STRATEGIES
<p><b>1.0 STRATEGIC ALIGNMENT</b> NASA aligns human capital to support the vision and accomplish the Agency’s mission and goals.</p>	<p>1.1 The Agency is well structured organizationally and matches its workforce and workload to support its mission in a safe, effective and efficient way.</p>	<p>1.1.1. Verify a clear linkage between the Human Capital strategies of the Agency and the mission, vision and goals as stated in the NASA Strategic Plan.</p>
		<p>1.1.2. Assure clarity of key goals, measure progress toward their achievement, and periodically assess the effectiveness of the organizational structure in achieving the goals.</p>
		<p>1.1.3. Leverage organizational capabilities through efficient and effective use of civil servants, contractors, grantees, and other non-Agency resources.</p>
	<p>1.2. Employees understand how what they do and how they do them support overall Agency goals.</p>	<p>1.2.1. Use the performance management system to clearly assign to the leaders of specific organizations, and hold them accountable for, the activities and functions required to achieve NASA's objectives.</p>
		<p>1.2.2. Assure all employees understand how their assignments contribute to achievement of the Agency goals.</p>
		<p>1.2.3. Effectively, fairly, and equitably use performance management to enable employees to understand their role in achieving Agency goals, individual performance, desired improvements and hold them accountable.</p>

	<p>1.3 Human Resources (HR) activities clearly, effectively and efficiently support and enable the Agency’s mission.</p>	<p>1.3.1. Assure alignment of human resources activities to contribute – through specific achievement of excellence in the five pillars – to achievement of the Agency’s key goals.</p> <p>1.3.2. HR policies and processes enable the Agency to effectively and efficiently manage its workforce.</p> <p>1.3.3. Human resource management professionals partner with Agency top management in developing strategic and program plans.</p>
<p>2.0 STRATEGIC COMPETENCIES NASA recruits, acquires, and retains a diverse workforce with world-class capabilities in strategic competencies needed for all components of its mission.</p>	<p>2.1 The Agency knows the competencies it needs and the workforce is concentrated in those competencies.</p>	<p>2.1.1. Develop, utilize and periodically update an integrated workforce planning and analysis process, and associated information technologies, including competencies required to achieve NASA goals, and allow an Agency-level view as they relate to projected programs.</p> <p>2.1.2. Conduct periodic competency gaps assessment and use results to target recruitment and development activities.</p>
<p>3.0 LEARNING NASA promotes a knowledge-sharing culture and a climate of openness, continuous learning and improvement.</p>	<p>3.1 NASA has a climate of open sharing of relevant knowledge to facilitate best practices, promote personal and professional growth, and avoid failures.</p>	<p>3.1.1. Strategically invest in training and development opportunities, including coaching and mentoring, and foster a climate of continuous learning and improvement.</p>
	<p>3.2 NASA actively collects, shares, and utilizes best practices from its successes and lessons learned from its failures.</p>	<p>3.2.1. Stimulate and encourage the capture and exchange of knowledge within the Agency.</p> <p>3.2.2. Provide a process for enabling the collection, sharing, and utilization of best practices from failures and successes.</p>

<p><b>4.0 PERFORMANCE CULTURE</b> NASA creates a culture that focuses on results, motivates employees to perform, and ensures fairness in the workplace.</p>	<p>4.1 NASA fosters an inclusive climate where employees are valued, treated fairly and with respect, and they feel empowered to make meaningful, relevant, and fulfilling contributions.</p>	<p>4.1.1. Assure Agency’s human capital programs and processes create an inclusive climate where employees are treated fairly, respected by management and their peers, and are valued for their meaningful and fulfilling contributions.</p>
	<p>4.2 Equal opportunity and diversity are utilized and valued for their contribution to the Agency mission.</p>	<p>4.2.1. Enhance, fully utilize and hold management accountable for maintaining an inclusive workforce and fostering an inclusive environment. 4.2.2. Promote employee education and training of equal opportunity and diversity to strengthen the Agency’s appreciation of the value added of a diverse and inclusive workforce.</p>
	<p>4.3 The NASA rewards and recognition system acknowledges high-level performance and encourages the behaviors the Agency desires in individuals and groups.</p>	<p>4.3.1. Assure linkage of employee and managerial rewards, recognition, development and performance to Agency key goals.</p>
<p><b>5.0 LEADERSHIP</b> NASA ensures it has leaders who are adaptable; who inspire, motivate, and guide others towards goals; who mentor and challenge the workforce; and who demonstrate high standards of honesty, integrity, trust, openness, and respect.</p>	<p>5.1 NASA recruits, selects, hires, and retains a diverse, high performing cadre of leaders who are nurtured through training and development opportunities.</p>	<p>5.1.1. Assure that the Agency senior management is involved in the process of recruiting a diverse cadre of high performing leaders.</p>
		<p>5.1.2. Provide mentoring, training, development and coaching opportunities to equip employees to assume leadership positions within the Agency.</p>
		<p>5.1.3. Establish methods and processes for leadership continuity.</p>
		<p>5.1.4. Assure that developmental opportunities improve supervisory effectiveness in managing and developing employees.</p>
	<p>5.2 Leaders are held accountable for overall performance, at the individual and organizational levels, in maintaining high standards of honesty, integrity, safety and equal opportunity principles.</p>	<p>5.2.1. Hold leaders accountable for consistently applying management practices aligned with NASA’s values. 5.2.2. Hold leaders accountable for performance at the organization as well as the individual level, including civil service workforce actions and associated costs.</p>

		5.2.3. Ensure that the value and spirit of equal opportunity and diversity are an integral part of leader evaluation and management expectations.
		5.2.4. Create a climate where ethical and moral behavior is understood and followed.

## SECTION 3.0 IMPROVEMENT INITIATIVE IDENTIFICATION AND RATIONALE

The key improvement initiatives that resulted from the initial assessment of the Agency’s state of human capital management versus where NASA believes it should be are discussed in the SHCP and in connection with the updated project plans in Section 4. They represent focus areas that merit special emphasis and where expenditure of resources can be expected to yield the greatest benefit. Together, they build on the original Strategic Human Capital Implementation Plan to enhance the Agency’s ability to effectively manage its human capital and maintain its preeminence as a world-class organization with a highly motivated, skilled, productive, and innovative workforce. The following table outlines in summary form the pillar, goal, problem, improvement initiative and the outcomes and results to be realized.

PILLAR	GOAL SUMMARY	PROBLEM	IMPROVEMENT INITIATIVE	OUTCOMES/ RESULTS
STRATEGIC ALIGNMENT	The Agency is organized to support its mission in a safe, effective and efficient way. Each organization understands its contribution to the Agency mission and each employee understands his or her personal contribution.	<ul style="list-style-type: none"> <li>• Fail to achieve “One NASA” due to ambiguity in roles and responsibilities or stovepipe behaviors</li> <li>• Smaller workforce – not deployed most effectively</li> <li>• Inadequate ability to track/forecast human capital across programs</li> </ul>	<p>Develop and implement an Agencywide integrated workforce planning and analysis capability. (See Action Plan 1)</p> <p>Increase the utilization of flexibilities and tools to ensure a highly skilled, diverse and productive workforce. (See Action Plan 2).</p>	<ul style="list-style-type: none"> <li>• “One NASA” with integrated capabilities to support NASA missions</li> <li>• Better deployed workforce and enhanced mission performance</li> <li>• Increased ability to attract and keep highly skilled diverse workforce.</li> </ul>
STRATEGIC COMPETENCIES	NASA understands the competencies required for safe and successful missions and recruits, acquires and retains a world-class workforce representative of the Nation’s diversity and consistent with competency needs.	<ul style="list-style-type: none"> <li>• Inadequate ability to identify imbalances in current and projected workforce arising from changing priorities and turnover</li> <li>• A shrinking national pipeline of talent needed for the future</li> </ul>	<p>Develop an Agency competency management system that defines competencies the Agency must retain and those for which it will rely on industry, academia and others. (See Action Plan 3)</p> <p>Ensure that NASA education programs match a diverse population of students with projected NASA</p>	<ul style="list-style-type: none"> <li>• Agency has skills it needs</li> <li>• Contribute to ensuring a source of competencies needed to assure future mission success</li> </ul>

			workforce needs (See Action Plan 4).	
<b>LEARNING</b>	NASA assures mission success by using existing knowledge effectively and acquiring new knowledge through learning.	<ul style="list-style-type: none"> <li>• Fail to capitalize on – and “institutionalize” – lessons learned from failures and successes</li> <li>• Insufficient attention paid to mentoring</li> </ul>	<p>Ensure training and development programs build needed competencies, including more effective incorporation of knowledge sharing and mentoring in the development of employee (See Action Plan 5).</p> <p>Capture knowledge and lessons learned (from failures and successes) in a more effective, systematic way (See Action Plan 6).</p>	<ul style="list-style-type: none"> <li>• Better performance through a more knowledgeable, more highly skilled workforce</li> <li>• Higher mission success rate</li> </ul>
<b>PERFORMANCE CULTURE</b>	NASA achieves excellence by valuing and recognizing performance in an environment in which all employees feel encouraged to contribute.	<ul style="list-style-type: none"> <li>• Performance expectations ambiguous (e.g., accountability, effort v. results)</li> <li>• Fail to deal adequately with poor performance</li> </ul>	<p>Assure the Agencywide performance management system focuses on accountability for results (See Action Plan 7).</p> <p>Assure that employee rewards and recognition programs are adequately linked to performance that contributes to achievement of Agency goals (See Action Plan 7).</p>	<ul style="list-style-type: none"> <li>• Improved individual and organizational performance</li> <li>• Enhanced mission success through more effective use of the diverse talents/abilities of the workforce</li> </ul>
<b>LEADERSHIP</b>	NASA has leaders who think strategically, inspire employees and achieve results	<ul style="list-style-type: none"> <li>• Lack of an integrated, strategic approach to leadership development</li> <li>• Do not fully benefit from insights/experience of existing leaders when developing future leaders</li> </ul>	Ensure that an integrated, strategic training and development program builds needed Agency leadership competencies (See Action Plan 8).	<ul style="list-style-type: none"> <li>• Agency has right kind and number of diverse leaders to achieve mission success</li> <li>• Effective process to develop leaders for future NASA leadership roles/responsibilities</li> </ul>

## **SECTION 4.0 STRATEGIC HUMAN CAPITAL MANAGEMENT IMPROVEMENT INITIATIVE ACTION PLANS**

As stated in the Introduction, the Agency has already undertaken a number of actions to respond to workforce issues and to begin implementing the Strategic Human Capital Plan. The NASA Centers have also been proactive in addressing workforce concerns at the local level. The key improvement initiatives identified in the NASA SHCP are carried forward into this revised Implementation Plan, as they remain a valid framework for further efforts that will continue to improve and solidify progress already made.

The action plans in this Section, built around these improvement initiatives, are intended to provide high-level guidance to the offices of primary responsibility to enable them to develop more detailed project plans as appropriate. They specify high-level milestones, both near-term and long-term, schedule dates, and metrics where appropriate. It should be noted that the metrics in the action plans are project-level and merely reflect progress on individual activities. The overall effectiveness of the implementation of the initiatives, together with ongoing NASA human capital management activities, is addressed via the critical metrics in Section 5.

The next phase of implementation for each initiative will require:

1. Assignment of accountability for each action plan
2. A more complete examination of the current state of the Agency with respect to the initiative
3. Development of project plans and resource requirements as appropriate
4. Development of functional- and management-level metrics.

## PILLAR: Strategic Alignment

NASA aligns human capital to support the vision and accomplish the Agency’s mission and goals.

Improvement Initiative: Develop and implement an Agencywide integrated workforce planning and analysis capability.

Short-term and long-term human capital issues associated with planning and acquisition of human resources are identified in a number of internal and external reviews conducted prior to the publishing of the NASA SHCP and original Implementation Plan. Human Capital issues are also prominent in the Columbia Accident Investigation Board’s report of August 2003. NASA’s critical workforce competencies are not permanent or static, but are a portfolio of skills that changes over time as NASA’s needs change, with new competencies coming in, existing competencies evolving to reflect new developments in science, engineering, and safety, and still other competencies no longer needed transitioning out. This action plan addresses these issues.

### Action Plan 1.

<b>Activities</b>	<b>Schedule</b>	<b>Metrics</b>
Develop & maintain, along with Enterprises, capacity to assure constant awareness of workforce (and facility) requirements & match them against capabilities, and take action when exceeding thresholds. <sup>1</sup>	Q1/2005 (subject to CAIB implementation plan schedules)	Review & analysis completed; Implementation plans for accepted recommendations in place.
Review current policies and standards, along with Enterprises, from an organizational structure and responsibility perspective, with an emphasis on the organization’s ability to do systems integration. Identify those that impede cross-Center collaboration and/or create functional or geographic “stove pipes”. Make appropriate changes to facilitate collaboration. <sup>1, 2</sup>	Q2/2005 (subject to CAIB implementation plan schedules)	Review & analysis completed; Implementation plans for accepted recommendations in place.
Implement new HR-Payroll data system through the e-Payroll effort. <sup>3</sup>	Q4/2004	Go-live achieved on the new system.
Reengineer Workforce Planning and Analysis Tools to work with the new HR-Payroll system coming from the e-Payroll effort	Q1/2005	Revised tools deployed on the NASApeople web site.
Add Strategic Workforce Management processes and information to the budget process. Identify changes to governing directives to improve integration in subsequent budget cycles. <sup>3</sup>	Q4/2004	Budget cycle initiated with processes and information in place.
Evaluate use of Other Than Full-Time Permanent appointments under revised agency policy.	Q4/2004	Analysis and other fact finding complete. Report delivered to Agency management.

1 - from CAIB Agency Wide Action Matrix  
 2 - from One NASA Recommendations Action Steps  
 3 - from NASA’s Proud To Be Commitments  
 4 - from NASA’s Equal Opportunity Board Action Plan

Outcomes/Results:

- ❑ “One NASA” with integrated capabilities to support NASA missions.
- ❑ Better deployed workforce and enhanced mission performance.
- ❑ Increased ability to attract and keep highly skilled, diverse workforce.

Completing these Outcomes will enhance NASA’s ability to:

- Identify future “on-board” projections vis-à-vis what will be needed in the future (oversupply/undersupply of key skills)
- Identify the number of truly critical civil servant personnel needed in those competencies that NASA must retain in-house.
- Identify the number of civil servant personnel needed to oversee competencies supplied through academia, industry or other organizations.
- Identify and plan out the reforms needed to enable the competitive sourcing of those activities that can or could be supplied through academia, industry or other organizations, including a schedule for each reform and an estimated range of the number of civil servant positions that could be affected each year (outlined in the NASA Competitive Sourcing Plan).

The Agency human capital strategy is comprehensively aligned with mission, goals, and organizational objectives: 1) integrated into budget and strategic planning documents; 2) consistent with OPM’s human capital balanced scorecard (issued December 1, 2001) and the PMA Standards for Success; and 3) compliant with standards for internal accountability systems to ensure effective merit-based Human Resource Management.

Ultimately, the successful implementation of this plan will enable the achievement of “One NASA”-integrated capabilities to successfully support NASA missions.

## PILLAR: Strategic Alignment

NASA aligns human capital to support the vision and accomplish the Agency's mission and goals.

Improvement Initiative: Increase the utilization of flexibilities and tools to ensure a highly skilled, diverse, and productive workforce.

NASA must continue to improve its agility as an organization in order to adapt to the changing needs of the future. This can be done with more institutional flexibility, more flexibility in shaping the workforce, and more flexibility within the workforce itself at the individual employee level.

### Action Plan 2.

Activities	Schedule	Metrics
Analyze data from corporate recruitment events to determine success in closing competency gaps and strengthening diversity. Use analysis to modify/enhance NASA's subsequent corporate recruitment programs, beginning with Spring 2004 campaign.	Q2/2004	Develop report on offers and declinations made during NASA's Fall 2003 corporate recruitment program.
Assess employee preference survey results. Use information to develop strategies to enhance NASA's recruitment and retention programs.	Q4/2004	Statistical results analyzed to shape and enhance NASA's recruitment and retention strategies.
Assess use of mechanisms and incentives used to hire nonpermanent civil servants.	Q4/2005	Track and monitor use of incentives to fill non temporary positions.
Develop an NEX Desk Guide to ensure that managers, supervisors, and the HR community are informed of the flexibility of this authority	Q2/2004	Desk guide completed
Develop workforce plan and implementing policies and procedures needed to use new flexibilities including term appointments, IPA, critical position pay authority.	Q1/2004	Completed draft policies, including draft metrics to assess flexibilities, for submission to OPM and Congress pending final passage of bill
Identify NASASTARS training and communications activities needed to increase understanding and awareness of stakeholders.	Q4/2004	Training and communications activities identified
Ensure that the hiring of personnel can come from an "Agency pool" of employees versus just a "Center pool" of employees. <sup>2</sup>	Q1/2004	NASA-wide vacancy announcement policy is in place
Examine and address inconsistencies in promotion practices across Centers, such as the inconsistent use of promotion boards across the Agency to determine promotion eligibility; promotion selection criteria such as the commitment to Agency values, diversity, and One NASA; and consistent use of NASA's job classification system. <sup>2</sup>	Q4/2004	Best promotion practices benchmarked and shared across Agency
Benchmark best practices for obtaining and using external	Q4/2004	Best practices provided to

centers to recruit talent for high-grade positions. <sup>4</sup>		Centers
Expand composition of SES selection panels to employees outside of the employing Center. <sup>2</sup>	Q3/2004	SES panels include individuals from other Centers
Develop an agency web-based new employee orientation site for all new employees. <sup>2</sup>	Q1/2005	Agency-wide orientation program developed and implemented.
Support NASA's SHCM implementation by developing and implementing a "One Human Resources" (One-HR) team approach that incorporates mechanisms for effective leadership of & alignment across One HR community and deploys an integrated human capital competencies model to enhance HR's ability to perform challenging new SHCM roles.	Leadership & alignment mechanisms – Q3/2004; Competency model – Q4/2004	Leadership & alignment mechanisms agreed and in place; Competency model adopted and gap analysis completed.
Establish a NASA shared services center for specified services in HR, financial management, procurement and IT to improve service delivery; achieve operating efficiencies; support the Agency's focus on "One NASA; and allow Centers to focus on core mission goals.	Initial operations – Q1/2005; NSSC site activation - Q1/2006; Phased Transition completed - Q1/2008	Milestones completed. NSSC functioning.
Develop workforce plans that identify NSSC affected employees & fully utilize human capital flexibilities to obtain NSSC workforce at NSSC site and redeploy performing workforce at Centers.	Q1/2006	Plans in place for start of phased transition.

- 1 - from CAIB Agency Wide Action Matrix
- 2 - from One NASA Recommendations Action Steps
- 3 - from NASA's Proud To Be Commitments
- 4 - from NASA's Equal Opportunity Board Action Plan

Outcomes/Results:

- "One NASA" with integrated capabilities to support NASA missions.
- Better deployed workforce and enhanced mission performance.
- Increased ability to attract and keep highly skilled, diverse workforce.

By achieving these Outcomes, NASA

- Will 1) sustain a high-performing workforce that is continually improving in productivity; 2) strategically use existing personnel flexibilities, tools, and technology; and 3) implement effective short and long-term plans leading to mission success.
- Will focus use of human resources flexibilities to address areas of concern to achieve optimum alignment between the workforce and the mission.

## PILLAR: Strategic Competencies

NASA recruits, acquires, and retains a diverse workforce with world-class capabilities in strategic competencies needed for all components of its mission.

Improvement Initiative: Develop an Agency competency management system that defines competencies the Agency must retain and those for which it will rely on industry, academia and others.

NASA’s true core competencies are the knowledge, skills, and abilities that NASA utilizes, develops, and obtains in order to provide the capabilities, products and services desired by its internal and external stakeholders. These critical workforce competencies are not permanent or static but are a portfolio of skills that change over time as NASA’s needs change – with new competencies needed and others less in demand, or eventually not required. This transition occurs not only at the organization level but applies as well to individuals and their associated portfolios of skills and competencies. This action plan will enable the Agency to build on its baseline assessment to determine what we need in the future and facilitate decision-making with respect to how to balance the competencies we have today.

### Action Plan 3.

Activities	Schedule	Metrics
NASA CMS content and capability integrated in Integrated Financial Management Program/Core Human Resources.	Q4/2006	Integrated Human Capital Management System milestones reached
Complete update of Workforce competencies and projected mission competency requirements in conjunction with Agency annual Budget POP cycle. <sup>1,3</sup>	Q3/2004	80% of Projects linked to Competencies (current and desired)
Employees’ individual competencies captured and maintained in the CMS. <sup>2</sup>	Q4/2004	90% of Employee’s individual competencies captured in CMS

- 1 - from CAIB Agency Wide Action Matrix
- 2 - from One NASA Recommendations Action Steps
- 3 - from NASA’s Proud To Be Commitments
- 4 - from NASA’s Equal Opportunity Board Action Plan

### Outcomes/Results:

- ❑ Agency has skills it needs.
- ❑ Contribute to ensuring a source of competencies needed to assure future mission success.

By achieving these Outcomes, the Agency will be better able to:

- Define the critical workforce competencies NASA needs to execute its approved programs over the next ten years – including permanent and non-permanent civil servants, and contracted workforce in industry and academia.

- Track, project, and analyze critical workforce competencies that enable strategic management.
- Identify those workforce competencies that can or could be supplied through academia, industry or other organizations and those competencies that can only be met through a civil servant workforce.
- Identify the limited number of truly critical civil servant personnel needed for those competencies that NASA must retain in-house as well as those needed to oversee competencies supplied through academia, industry or other organizations.
- Avoid skill gaps/deficiencies in mission critical occupations.

## PILLAR: Strategic Competencies

NASA recruits, acquires, and retains a diverse workforce with world-class capabilities in strategic competencies needed for all components of its mission.

Improvement Initiative: Ensure that NASA education programs match a diverse population of students with projected NASA workforce needs.

There are major issues associated with the pipeline of talent available to meet NASA’s mission needs. Efforts must be made to understand the needs of the Agency, evaluate the application of NASA’s education programs to meet these needs, and help ensure a source of competencies needed to assure future mission success. The following plan implements activities to address this problem.

### Action Plan 4.

<b>Activities</b>	<b>Schedule</b>	<b>Metrics</b>
Design & implement a strategic approach to Education student pipeline program awareness activities/events that aligns directly with the Agency’s Corporate Recruitment Initiative and EO Board Action Plan. <sup>4</sup>	Q3/2004	Approach implemented; collaboration on-going
Allocate/align the Undergraduate Student Research, the Graduate Student Research, the Undergraduate and Graduate Scholars, and the Harriet G. Jenkins Pre-doctoral Fellowship programs student intake, selection and placement decisions to address projected “at risk” Center human capital competencies.	Q1/2005	New process (governing program allocation and placement decisions) implemented

1 - from CAIB Agency Wide Action Matrix

2 - from One NASA Recommendations Action Steps

3 - from NASA’s Proud To Be Commitments

4 - from NASA’s Equal Opportunity Board Action Plan

### Outcomes/Results:

- ❑ Agency has skills it needs.
- ❑ Contribute to ensuring a source of competencies needed to assure future mission success.

The Agency will more effectively be able to provide the workforce it needs to achieve mission success. In addition, the NASA education programs will be more effective and efficient in contributing to the development of a source of competencies the Agency requires.

PILLAR: Learning

NASA promotes a knowledge-sharing culture and a climate of openness, continuous learning and improvement.

Improvement Initiative: Ensure training and development programs build needed competencies, including more effective incorporation of knowledge sharing and mentoring in the development of employees.

NASA’s training and development programs have been designed to address competencies identified in a number of internally developed competency models. NASA has developed an enhanced workforce planning and analysis capability, including an Agencywide competency management system, and training and development programs must be continually re-evaluated in the context of that comprehensive set of competencies. NASA will continually assess its development needs to determine whether the current suite of training and development programs are integrated and targeted to meet the future competency requirements of the Agency.

While NASA has always recognized the importance of training and development and has funded a wide variety of courses and programs to enhance employees’ technical proficiency and career development, external and internal reviews such as the CAIB report continue to cite NASA’s need to better address knowledge sharing and mentoring as a part of the project leadership process. Programs and processes must stimulate a climate of open sharing and continued learning and improvement. Mentoring and coaching are important components of employee and management development and are essential components of the project leadership process. Given that resources (both dollars and time) that can be dedicated to training and development are constrained, optimizing NASA’s investment consistent with its mission and priorities – as well as maximizing the benefits to the employees – is also critical. This portion of the action plan is directly associated with improving the Agency’s ability to incorporate knowledge sharing and mentoring into the operating environment of NASA and with assuring that NASA’s training and development programs are aligned with strategic priorities.

Action Plan 5.

Activities	Schedule	Metrics
Expand identification of critical leaders and experts who can share knowledge and mentor future project leaders through the Leaders as Teachers and Mentors Initiative.	Q4/2004	Total of 80 identified leaders and experts
Conduct Knowledge Sharing Workshops and Forums with project practitioners to share best practices and lessons learned relative to strengthening project management competencies. <sup>1</sup>	Q4/2004	Total of 8 Knowledge Sharing Workshops and Forums Conducted
Increase knowledge in strategic competencies through increased participation in e-learning opportunities.	Q4/2004	Increased participation from FY03 Baseline in test completions and certifications
Support the development and implementation of an expanded training program for potential crew and vehicle	Q2/2004	Training plan developed

safety contingencies beyond launch and ascent. <sup>1</sup>		
Support the development of training requirements for advancement, reassignment, and certifications for types of positions with recertification requirements. <sup>1</sup>	Q4/2004	Requirements defined
Support and assist the development and implementation of training programs that leverage case studies and lessons learned capabilities characteristic of other Federal and commercial organizations. <sup>1</sup>	Q4/2004	Development of case studies

1 - from CAIB Agency Wide Action Matrix

2 - from One NASA Recommendations Action Steps

3 - from NASA's Proud To Be Commitments

4 - from NASA's Equal Opportunity Board Action Plan

Outcomes/Results:

- ❑ Better performance through a more knowledgeable, more highly skilled workforce.
- ❑ Higher mission success rate.

By achieving these Outcomes,

- The Agency will be better able to ensure that the cultural norm is that employees broaden their experience and skill base as part of career advancement at NASA.
- NASA will be able to align its programs with strategic priorities to optimize its investment in training and development to support the mission.
- Project leadership will be strengthened as knowledge sharing and mentoring of employees become a larger development component of NASA's future project managers.
- Ultimately, better performance of the workforce and a resultant higher mission success rate will result from implementing this action plan.

## PILLAR: Learning

NASA promotes a knowledge-sharing culture and a climate of openness, continuous learning and improvement.

Improvement Initiative: Capture knowledge and lessons learned (from failures and successes) in a more effective, systematic way.

NASA, through external as well as internal reviews, has identified a need to do a more effective and efficient job of capturing and sharing knowledge from the lessons learned associated with successes and failures. The action plan specifically focuses on improving the NASA lessons learned process.

### Action Plan 6.

Activities	Schedule	Metrics
Through the NASA Technical Standards Program in the Chief Engineer's Office, lessons learned are being linked to web-based technical standards on NASA's Preferred Technical Standards list at <a href="http://standards.nasa.gov">http://standards.nasa.gov</a> because these standards are the guidelines and tools engineers use in defining and executing programs and projects. Accessing standards through the Preferred Technical Standards list makes lessons learned available to technical professionals when they need them and in an appropriate context for application. <sup>1</sup>	On-going	To date, 176 entries from the Lessons Learned Information System have been linked to 72 NASA Preferred Technical Standards
Enhance NASA lessons learned information system (enhanced search, problem solving, open software code, customizable, standard template, push capability, etc.). <sup>1</sup>	On-going	Completion September 2004
Establish/enforce Program/Project Managers requirement to utilize (populate and search) the NASA lessons learned system. Include in independent review criteria.	Incorporate requirement in NPG 7120.5C February 2004	Trend Analysis
Link the Agency's numerous databases and other information sources to LLIS. <sup>1</sup>	Pilot completion January 2004; Completion September 2004	Phased implementation thru September 2004
Support the incorporation of lessons learned into Agency policies, standards, processes, procedures, and work instructions via process owners. <sup>1</sup>	On-going	Trend Analysis

1 - from CAIB Agency Wide Action Matrix

2 - from One NASA Recommendations Action Steps

3 - from NASA's Proud To Be Commitments

4 - from NASA's Equal Opportunity Board Action Plan

### Outcomes/Results:

- ❑ Better performance through a more knowledgeable, more highly skilled workforce.
- ❑ Higher mission success rate.

The ultimate desired outcome is a culture where lessons learned from failures and best practices from successes (both internal and from similar external organizations) are captured and shared – leading to greater mission success.

## PILLAR: Performance Culture

NASA creates a culture that focuses on results, motivates employees to perform, and ensures fairness in the workplace.

Improvement Initiative: Ensure the Agencywide performance management system focuses on accountability for results. Ensure that employee rewards and recognition programs are adequately linked to performance that contributes to achievement of Agency goals.

Fostering an inclusive climate and a feeling among the employees that what they do is relevant and fulfilling is vital to mission success. NASA's environment and systems can be more effective in contributing to the inclusive climate and feelings of empowerment in making fulfilling contributions. The excitement of NASA's mission should be leveraged to the fullest extent. Currently, performance expectations are often ambiguous and there is a perception that the Agency fails to deal adequately with poor performance. In addition, the Agency cannot overemphasize the importance of equal opportunity, diversity, and inclusiveness. The true promotion of EO principles is essential. The Agency should always strive for improvement and must make NASA relevant to underrepresented groups. This action plan addresses fair and equitable use of performance management, rewards, and recognition systems of the Agency to firmly establish the linkage between the employee and individual and organizational improvement.

### Action Plan 7.

Activities	Schedule	Metrics
Benchmark Performance Culture activities to include how to deal with poor performers.	3Q/2004	Report Issued
Implement recognition awards program improvements, including an Agency peer award and contributions to EEO awards. <sup>2,4</sup>	4Q/2004	Agency Peer Award Program Implemented
Develop and implement clear recognition criteria aligned with Agency's goals, objectives and values that fully address core behaviors: One-NASA, knowledge sharing and teaming. <sup>2</sup>	4Q/2004	Recognition criteria is developed and implemented
Analyze trends using 2004 Federal HC Survey results.	Survey Release Date plus 90 days	Trend analysis
Develop method to evaluate the use and impact of award criteria on mission results and value creation.	4Q/2004	Impact of award evaluation methodology developed
Benchmark Activities (NASA Center Federal HC Survey Benchmarking Activity Plan).	4Q/2004	Report Issued
Develop methods to collect, analyze and provide meaningful data on awards results across NASA.	4Q/2004	Method to collect and analyze awards data developed

1 - from CAIB Agency Wide Action Matrix  
 2 - from One NASA Recommendations Action Steps

Outcomes/Results:

- ❑ Improved personal and organizational performance.
- ❑ Enhanced mission success through more effective use of the diverse talents/abilities of the workforce.

In achieving these Outcomes,

- The Agency will clearly differentiate between high and low performers through appropriate incentives, rewards, and the performance management system.
- Personal and organizational performance will improve and mission success will be enhanced through more effective use of the diverse talents/abilities of the entire workforce.

## PILLAR: Leadership

NASA ensures it has leaders who are adaptable; who inspire, motivate, and guide others towards goals; who mentor and challenge the workforce; and who demonstrate high standards of honesty, integrity, trust, openness, and respect.

Improvement Initiative: Ensure that an integrated, strategic training and development program builds needed Agency leadership competencies.

Leadership is considered the foundation for all the others pillars. The strategy of providing leadership training and development opportunities to nurture current and future NASA leaders is a strong area of focus. Although we have already made improvements in deploying an integrated, strategic approach to leadership development, this action plan includes the further evaluation and enhancement of the Agencywide leadership development effort to reflect findings and observations from the CAIB, including the concepts of mentoring, coaching, succession planning and developing leaders who are accountable. Accountability across the Agency for performance toward NASA's vision, mission and goals is paramount. The success of this plan relies on accountability at all leadership levels including SES and, therefore, the activities associated with this pillar include leadership assessment. Further, the characteristics of our leaders form the foundation for successful performance and will be evaluated as well. In order to ensure that NASA's leaders (at all levels including SES) have a shared understanding of Agency goals, objectives, processes, methods, concepts, and values, emphasis should be placed on development and implementation of a standardized leadership/management curriculum, including mentoring and coaching for both current and future leaders.

### Action Plan 8.

Activities	Schedule	Metrics
Work with Enterprises and Centers to develop recommendations and options for a more consistent and integrated approach to leadership and career development, including benchmarking. <sup>1</sup>	FY04	Recommendations and options presented to Agency management for review, approval and implementation
Revalidation of NASA Leadership Model, as necessary. <sup>1</sup>	Q3/2204	Validation completed by Agency team
Ensure that centers align Center-specific leadership training in consonance with NASA leadership competencies. <sup>1</sup>	FY04	Programs and activities aligned
Conduct an Agency Leadership Development Program. <sup>1</sup>	Q2/2004	Program being conducted
Conduct an SESCDP Program. <sup>1,3</sup>	Q2/2004	Candidates selected
Candidates for long-term development programs are selected based upon demonstration of leadership competencies. <sup>1,3</sup>	Q1/2004	Candidates selected
Support the development and implementation of broadening strategies across the Agency. <sup>1,2</sup>	Q2/2005	Broadening strategies developed and implemented
Support the requirement for SES mobility and broadening assignments. <sup>1,2</sup>	Q2/2004	Finalize changes to appropriate NASA

		documents
Develop guide for using and developing coaching and mentoring skills.	Q2/2004	Guide developed
Leadership corps serves as mentors and coaches and is involved in design, development and conduct of activities for developing future leaders	Q2/2004 and ongoing	SES involved annually in development activity
Support the development and implementation of Leader Led Workshops. <sup>2</sup>	Q1/2004	Workshops developed and being conducted
Collaborate to develop and deploy accessibility training related to the "Americans with Disabilities Act." <sup>4</sup>	FY04	Training developed and made available

1 - from CAIB Agency Wide Action Matrix

2 - from One NASA Recommendations Action Steps

3 - from NASA's Proud To Be Commitments

4 - from NASA's Equal Opportunity Board Action Plan

### Outcomes/Results:

- Agency has right kind and number of diverse leaders to achieve mission success.
- Effective process to develop leaders for future NASA leadership roles/responsibilities.

Through achieving these Outcomes,

- The Agency will have the right kind and number of diverse leaders to achieve mission success.
- There will be an integrated, strategic process in place to develop NASA leaders for future roles and assignments across the Agency.

## SECTION 5. MEASUREMENT AND ASSESSMENT

As described in the SHCP, measurement and assessment are essential in aiding the NASA leadership in managing the Agency's human capital, identifying areas for improvement and/or increased emphasis, and assessing whether existing activities and initiatives are producing the desired results. As the lead at NASA for the President's Management Agenda initiative for the Strategic Management of Human Capital, the Office of Human Resources will have a key role in establishing human capital policy and program development, in partnership with the Enterprises and the Centers, and in cooperation with the Education Enterprise and the Office of Equal Opportunity Programs and in cooperation with the strategic enterprises and their Centers; developing tools and flexibilities for Center use in recruiting, retaining, and developing the workforce; and measuring the outcomes and results associated with these activities across the Agency. These results will be reported back to management and Agency senior executives for the purposes of better understanding the effects of the human capital activities for which managers are being held accountable and for improving the Agency's management of human capital.

A key element to successful implementation of the SHCP is periodic assessment of Agency progress toward meeting the goals it has set for itself. This can best be achieved via a hierarchy of metrics. At the most basic level, a set of measures and/or an assessment process is in place to provide insight into the overall "health" of an initiative, function (such as human resources programs and initiatives), or organization. In the case of the SHCIP, these would occur at the improvement initiative or project level. The next higher level are a smaller set of measures that senior management requires to understand the current state, provide feedback, set goals and make course corrections. The highest level of metrics are those "critical few" that senior management and stakeholders care most about and will be reported to the Agency's executives for further evaluation and action, as appropriate. These latter metrics, their intent, methodology, and assessment criteria are discussed below.

***Critical Metrics.*** Two critical metrics have been identified to help in assessing Agency progress toward achieving its human capital aims. The metrics, described below, can be very powerful in their application due to the fact that each covers a number of goals across a very broad spectrum in a measurable manner. They can also assist management in analyzing root causes of problems and issues.

### **Objective 1: Continuous progress in closing gaps in NASA's critical competencies.**

Metric 1: NASA will ensure, on an Agencywide basis, that it closes the gap between the critical competencies it has and those it needs.

Ex: Assume desired level of nanotechnology competency, either in terms of Full-Time Equivalents (FTE), Full-Time Permanents (FTP), or other unit is 100. Assume existing

level of competency is 80. This would represent a gap of 20 (20% in this case). Action is required to close the gap.

Source of Data: NASA Competency Management System

Method of Measurement: Total strategic competencies needed minus strategic competencies available divided by total strategic competencies (same measure for subset of critical strategic competencies).

Frequency of Measurement: Semi-annually

A more detailed discussion of the phased development of the Agency workforce planning and analysis capability is contained in Action Plan 1 above..

## **Objective 2: Alignment of NASA's human capital strategy with its mission, goals, and organizational objectives.**

For this metric, a baseline must be set and ongoing evaluation will be required. The human capital survey administered by OPM was chosen to serve as the baseline. Additional surveys, where the OPM survey may not be complete for the Agency's needs, are developed and implemented as required.

Metric: On an Agencywide basis, NASA achieves an overall satisfaction level based on survey responses received in the following areas:

- a) People have the resources they need to perform their job;
- b) The performance management system is effective in identifying poor performance and taking steps to improve performance;
- c) Awards and recognition programs incentivize and reward the behaviors the Agency wants to foster;
- d) The workforce has adequate opportunities for learning and improvement; and
- e) NASA fosters an environment of inclusiveness.

Source of Data: OPM employee survey and/or other surveys as necessary.

Method of Measurement: Assessment of responses received on relevant survey questions. Surveys either in addition to, or in lieu of, the OPM survey will be the method of measurement as required.

Frequency of Measurement: Annually

As stated earlier, the results of these metrics will serve as guideposts for evaluation of the overall health of our human capital management effort and the metrics may be amended when, and as, necessary.

The above two metrics are intended to be integrated into the Agency annual budget and performance planning process. Responsibility for maintaining the metrics, providing tools and technologies to help managers and executives succeed in their human capital management efforts, and reporting progress to senior management will reside with the Headquarters Office of Human Resources (Code F). As reflected in the Roles and Responsibilities table in Section 1, achieving results is the shared responsibility of all organizations at all levels, although ultimately Enterprise and Center managers are accountable for producing the desired human capital results. These metrics cover directly or indirectly Agency progress in addressing all of the areas of concern expressed by internal and external parties regarding the workforce, including:

- Identifying and managing competencies needed to carry out the mission and eliminating gaps in mission critical competencies
- Succession planning
- Strategically using existing personnel tools, flexibilities, and technologies
- Differentiating between high and low performers through appropriate incentives and awards and merit-based human resources management
- Appropriate consideration of skill mix, technology, e-government and competitive sourcing.

As such, these metrics and results will be monitored, assessed and reported to the Agency's senior executives, line managers, and employees as appropriate to help ensure accountability and improvement.

## **Appendix A: Current Activities and Initiatives**

Consistent with the focus of the President's Management Agenda (PMA) and accompanying Standards for Success developed by the Office of Personnel Management and Office of Management and Budget, NASA's work in strategic human capital planning and management during the past two years has emphasized a broad-scope, integrated Agencywide approach. This approach seeks to infuse and strengthen the concept of planning strategically for the identification, acquisition, development, and retention of workforce into the overall planning and execution of the Agency's mission and all of the associated program and institutional plans and management activities undertaken. More specifically, NASA's human capital efforts are deliberately focused to tie back to and support the broadest goals of the entire Agency, which are again aligned with the PMA, including

- enhancing our ability to work together as "One NASA,"
- enabling us to perform our mission more safely and effectively, and
- ensuring that resources entrusted to us are well managed and wisely used.

NASA's Strategic Human Capital Plan is aligned with the Agency's Strategic Plan, which includes the performance plan goals. The updated NASA Strategic Plan developed during 2002 (published February 2003) incorporates specific reference to Human Capital and the need to implement an integrated Agencywide approach that is the shared responsibility of all organizations at all levels. The five pillars in our Strategic Human Capital Plan allow us to organize human capital efforts to effectively support NASA's mission. Overall, NASA human capital is managed strategically through the alignment of recruitment, deployment, development and the future intake pipeline (as influenced by NASA education programs) with the Agency strategic plan. The combination of all these strategies will ensure that NASA maintains the excellence and innovation that the Nation expects, along with an unwavering commitment to safety and fiscal responsibility.

During 2002-2003, NASA systematically developed and implemented new tools, processes and capabilities--and reviewed, updated, and integrated some existing tools and capabilities--to successfully deliver on the objectives and strategies of the SHCP and our PMA Action Plan. Throughout, maintaining a strong tie to the Agency Vision and Mission, and ensuring relevance to the management needs of the entire Agency have continued to be enduring themes. Through deployment of the NASA People website (<http://nasapeople.nasa.gov>), we have also emphasized availability to everyone of information and tools that support the focus of SHCM and our core NASA Value of "People." As a result, we are able to successfully integrate multiple human capital strategies to ensure that we achieve our mission and vision and the goals, and objectives documented in our Strategic Human Capital Plan and the companion Strategic Human Capital Implementation Plan.

## **Strategic Alignment**

Strategic Alignment of human capital and all corresponding improvement initiatives ensure that NASA is organized to support its mission in a safe, effective, and efficient way. Each organization understands its contribution to the Agency mission and each employee understands his or her personal contribution. Human capital activities are specifically geared toward supporting Exploration Capabilities by standing up Code T – Exploration Systems. Other efforts are focused on establishing a NASA Shared Services Center (NSSC) for handling specified services in human resources, financial management, procurement and IT. This effort will improve service delivery, achieve operating efficiencies, and support the Agency's focus on "One NASA." The establishment of the NSSC will allow Centers to focus more on core mission goals. NASA will meet its performance goals through the active support of this strategic alignment effort. NASA will develop and maintain the capacity to assure constant awareness of workforce (and facility) requirements, match them against capabilities, and take action when exceeding thresholds. NASA will “understand and protect our home planet, explore the universe and search for life, inspire the next generation of explorers and ensure exploration capabilities,” as a result of assuring the appropriate capacity has been strategically deployed to perform the work.

### **Workforce Planning and Analysis**

We have improved our workforce planning capabilities by providing comprehensive workforce information for managers and for HR & budget staffs about NASA past, present and future demographics, occupations, competencies, diversity, etc., along with guidance on the planning process. Our analysis tool provides an integrated view of hires, losses, and employee strength and calculates attrition for all segments of the workforce. Our forecasting tool predicts retirements and other losses over 5 years by Center, occupation, competency, etc.

Using these tools, we are able to leverage our talent and structure organizationally and geographically to better accomplish our mission, e.g., the new NASA Engineering and Safety Center and the (planned) NASA Shared Services Center. We eliminated an entire layer of management and significantly reduced the number of organizational elements to establish an organization that better supports Agency goals, is more responsive to customers, and enables direct services delivery positions to interact with citizens. We also reduced the number of layers required for approval by delegating authorities from Headquarters to the Centers.

## **Strategic Competencies**

### **Competency Management**

The linchpin of our success has been an Agency-wide Competency Management System (CMS), the key component of an enhanced workforce planning and analysis capability. CMS has been benchmarked and demonstrated by request in a wide range of public forums and to a growing list of other Federal Agencies. This system enables the Agency to track, project, and analyze critical workforce competencies; identify current

competency imbalances in the workforce relative to future needs (oversupply/undersupply of key skills); and assess the competency gaps. Drawing upon information in the NASA Strategic Plan and insight provided by NASA managers, 148 critical competencies were identified that reflect the knowledge or “know how” needed to achieve NASA mission objectives. An analysis completed in late 2002 linked the competency inventory to workforce information to forecast future competency availability, using employee demographic and retirement eligibility data and turnover trends. Guided by this information, recruitment and development initiatives identify current recruiting priorities, identify developmental needs of the workforce, and target various education programs to meet future workforce needs.

As a hub in a wheel, the Competency Management System is the central feature that enables and links together much of our other SHCM implementation effort. With competencies as the “common language” across all the Centers and Headquarters, a NASA Directive in September 2003, established both policy and a process to integrate Total Workforce Planning with the Strategic Plan and the Budget Formulation cycle, and links

- workforce planning
- competency tracking and analysis
- recruitment planning
- workforce redeployment
- training and development and
- the education programs pipeline

with all workforce components.

#### Civil Service/Contractor Partnerships

We have integrated the outcomes of our Federal Activities Inventory Reform (FAIR) Act results and competitive sourcing with our workforce planning efforts to assure that civil service resources are directed to inherently governmental performance and/or critical capabilities that are required to preserve the Agency’s mission critical competencies, while reshaping the workforce with expanded use of Other Than Fulltime Permanent civil servants, contractors, and other non-civil service talent sources (e.g., Intergovernmental Personnel Act assignees). The Competency Management System provides managers with information about potential “at risk” skills.” Using Full Cost Management, managers and human resources professionals can work together to find a cost-effective mix of civil service workforce and contractor/other staff that will together achieve our “One-NASA” mission.

#### Education Programs

The NASA Education Enterprise was established and Education Office staff now collaborate in human capital management by assessing and strengthening the linkage between education strategies and programs and the future workforce competency needs of the Agency. Connections have been made among education programs to result in an integrated “pipeline of talent” that can flow from one program to another over the lifecycle of students and ultimately produce potential recruits with capability in mission critical competencies NASA needs. We are now focusing on stabilizing “at risk”

competencies by developing long-range education and recruitment programs to overcome the impact of declining student enrollment in Science, Technology, Engineering and Mathematics (STEM) curricula. The Educator-Astronaut Program was designed to give teachers an opportunity to bring first-hand astronaut experiences to the classroom to inspire students to pursue studies in STEM.

#### Corporate Recruitment

Building onto the Education programs initiative and further embracing a renewed commitment to assure that diversity in our workforce reflects the diversity of the Nation, we developed a 5-year Corporate Recruitment Strategy based on the outcome of competency gap forecasts from CMS. A formal partnership with the NASA Office of Education and NASA Office of Equal Opportunity Programs was established to integrate key programs from all three areas into coordinated, One-NASA recruitment strategies. Our first cycle of the Corporate Recruitment Initiative has been completed and resulted in over 90 offers to diverse graduates from 21 universities and university clusters with significant numbers from under-represented groups. Significantly, our Corporate Recruitment Initiative established new or strengthened existing partnerships with diverse universities and professional organizations representing potential minority candidates.

NASA's automated Staffing and Recruitment System (NASA STARS), a pathfinder project under the Integrated Financial Management Program, was initiated in FY 2001. NASA STARS is a resume management process that uses a computer-assisted rating and referral system, simplifies and expedites hiring, allows applicants to apply on-line, and enables creation of a skills database. Feedback to applicants now takes less than one day, when it used to take 59 days, and we are able to make on-the-spot offers under appropriate circumstances, which was crucial to the success of the Corporate Recruitment outcome. Our survey data show that applicants and managers are very satisfied with NASA STARS. Our initiatives have been benchmarked by numerous agencies, and have received both internal and external awards, including the E-Gov Explorer Award.

NASA Centers are also now able to begin repaying student loans to attract or retain employees. The Agency will continue to utilize these programs, the Presidential Management Fellows Program, and other student employment programs as tools for entry-level hires. We are also using a wider variety of hiring flexibilities to a greater degree (e.g., Intergovernmental Personnel Act, Undergraduate Student Research Associates, NASA Excepted, Federal Career Intern Program). To further strengthen our success in recruiting and attracting the top talent needed for the NASA Mission, we have successfully pursued a package of legislative flexibilities and tools to address particular challenges NASA faces in recruiting scarce and highly specific engineering and science talent. (See Appendix B)

## **Learning**

Learning is exceedingly important to an organization known as premier in exploration and discovery. In order to accomplish our mission, NASA promotes a knowledge sharing culture and climate of openness, continuous learning, and improvement. If we are to maximize the return on our development investments, we must ensure that training programs are aligned with the Agency's strategic priorities and address the Agency's critical competencies. A study of training effectiveness conducted in FY 2003 indicated that NASA's training program aligns well with the top thirteen critical competencies and that training instances and investments support the strategic priorities of the Agency and its Enterprises.

We have revamped our training and development programs to assure that they are aligned with our Agency critical competency needs and continue to do so as new developments such as the Columbia Accident Investigation Board Report warrant. We have also strengthened the emphasis on mentoring and coaching support and continue to deploy developmental opportunities that incorporate and capitalize on lessons learned and knowledge sharing.

Through the NASA Technical Standards Program in the Chief Engineer's Office, lessons learned are being linked to web-based technical standards on NASA's Preferred Technical Standards list at <http://standards.nasa.gov>. These standards are the guidelines and tools engineers use in defining and executing programs and projects. Accessing standards through the Preferred Technical Standards list makes lessons learned available to technical professionals when they need them and in an appropriate context for application.

The Academy of Program and Project Leadership (APPL) provides a number of opportunities that foster the development of the program/project management workforce, an essential group that supports the mission and goals of the Agency. With greater emphasis on creative staffing that adjusts to new and emerging workforce dynamics and characteristics, the importance of knowledge sharing to carry forward the knowledge gained by the NASA workforce of the past into the NASA workforce of the future is more crucial than ever before. In this regard, expanded reliance on e-learning tools not only extends our reach but also reduces resource expenditure on training and knowledge sharing delivery systems. All of this effort is geared to the overall performance enhancement of the workforce and the reduction of projected future competency gaps.

## **Performance Culture**

Performance Culture is another core element in NASA's ability to recruit, retain, reward and recognize a world-class workforce that is inclusive and diverse. NASA has continually achieved excellence by valuing and recognizing performance in an environment in which all employees feel encouraged to contribute. NASA will achieve each of its performance goals because we have a committed workforce that understands how their individual accomplishments impact the Agency's ability to achieve excellence

and provide value to the American public. NASA is able to develop cutting edge technology that produces breakthrough results by ensuring that employees are valued for innovation and creativity. NASA recently received the honor of being the “Best Place to Work in the Federal Government.” Continual analysis of the Federal Human Capital Survey and the Employee Preference Survey will provide important information needed to enhance strategies to both improve diversity, inclusion, rewards, and recognition, and to encourage high performance.

## **Leadership**

### **Leadership Development**

Leadership is the cornerstone when building an organization of professionals striving for scientific and technological innovation and excellence. NASA must have leaders who think strategically, inspire employees, and achieve results. NASA’s strong and effective leadership is one of the key elements in achieving each of the Agency’s performance goals.

NASA’s leadership development and succession planning efforts cascade from an overall NASA Leadership Model, developed internally using input from over 600 NASA managers and senior leaders. The Leadership Model ensures that our learning strategy for leadership and management development is integrated across the Agency, and it creates a framework for measurement and evaluation of the effectiveness of leadership development activities at the individual and organizational levels. It identifies the competencies that guide the curriculum of Agency-level leadership development programs. This approach provides a template to ensure that NASA’s current and future leaders are developed and trained in a consistent manner throughout the Agency. With the Leadership Model as a guide, NASA has conducted an Agency Leadership Development Program and SES Candidate Development Program; is supporting the development and implementation of broadening strategies across the Agency; and is working with Centers and Enterprises to develop a more consistent and integrated approach to leadership and management career development.

### **Succession Planning**

Long-term developmental processes are in place at both the Center and the Agency levels. We have inserted into our leadership development efforts new tools and new priorities that strengthen the strategic element of our training and development efforts and better integrate them into a suite of programs that builds needed Agency leadership competencies and is tied to a succession planning pipeline. Taken in total, these efforts produce a cadre of trained leaders and future leaders who are ready when needed to assure continuity of strong leadership in program, administrative, managerial and executive roles.

### **Accountability**

The NASA Strategic Plan states that human capital management is the responsibility of all organizations at all levels. To solidify that expectation, revised performance elements and standards for all executives, managers and supervisors have been issued that link to

the Agency mission and core values; support the President's Management Agenda, including Human Capital Management; facilitate our move to a "One-NASA" culture; and emphasize the shared accountability for performance in these areas. These general performance expectations are augmented by measurable outcomes, such as those contained within the Strategic Human Capital Implementation Plan Improvement Initiatives. We have developed a Human Capital Accountability and Assessment System to reinforce values and expectation through cyclical evaluation, to strengthen our commitment to improving processes across all levels, and to ensure that organizational learning leads to insight and actions. This is a results-oriented system that enables us to understand, evaluate, and improve human capital management.

### **Summary**

The overarching feature of Strategic Human Capital Management in NASA is the drive to assure integration, both among human capital pillars and with the overall mission and programs of the Agency. This includes close coordination and shared emphasis with other pillars of the PMA, including Integrated Budget/Performance Management, to which strategic workforce planning, full cost management of workforce costs and investments, competency-targeted recruiting and development, and a strengthened performance culture all contribute; and the e-Gov pillar through which NASA is supporting a wide array of Federal Government initiatives that target the means and technology for delivering human capital management services, e.g., e-Payroll, Go-learn, e-training, e-HR. Evidence of successful SHCM penetration into ongoing mission execution is the Agency's Program/Project Executive Reporting System, Erasmus. Within this automated program status and reporting tool, each program and project is provided an avenue to describe its human capital issues, concerns, and successes, cementing in the minds of program managers and all levels of executive management above them the centrality of good human capital management to mission success.

**APPENDIX B:**

**NASA Human Capital Legislation**

On February 24, 2004, President George W. Bush signed the NASA Flexibility Act of 2004 into law. This important legislation provides NASA with new human resources flexibilities—flexibilities that will be vitally important in meeting the Agency’s human capital goals.

This Act consists of multiple provisions designed to address a range of human capital challenges and to strengthen all levels of the workforce: fresh-outs, mid-level, and senior level. The provisions include incentives that will enable NASA to compete successfully with the private sector in attracting and retaining a world-class workforce as well as authorities that will enable NASA to reshape and redeploy its workforce more effectively to support the Agency’s Mission.

<b>Provision</b>	<b>Description</b>	<b>Benefits</b>
<b>Increase the maximum rate of pay for NEX</b>	Increases the maximum rate of pay for NEX employees to level III of the Executive Schedule (\$142,500) rather than Level IV (\$134,000).	Current Space Act provisions limit maximum rate of pay for NEX employees to level IV of the Executive Schedule. Raising the cap will enhance NASA's ability to hire individuals of unique, exceptional ability by compensating them at a level commensurate with their expertise.
<b>Enhanced Recruitment, Relocation, and Retention Bonuses</b>	<p>Authorizes larger bonuses to address critical needs, capped at 50% of salary (including locality pay) times the number of years of service agreement (not to exceed 100% of employee's salary).</p> <p>Provides flexible payment options (lump sum or installments).</p> <p>Permits payment of retention bonus to individual who would otherwise leave for a different Federal agency.</p>	<p>Provides a more effective recruitment and retention incentive, enabling the Agency to compete more successfully with the private sector for scarce talent.</p> <p>Incentives would address expected attrition rates and loss of institutional knowledge.</p>

<p><b>Expanded use of Term Appointments</b></p>	<p>Permits non-competitive conversion of a term employee to a permanent position if original competitive announcement indicated the possibility of such conversion and the position is in the same line of work. Merit promotion competition would be required for conversion to permanent employment if positions are in a different line of work or different location.</p> <p>Also authorizes term appointments for up to 6 years for project-type work (rather than 4).</p>	<p>Streamlines the process for converting a term employee to permanent status, allowing for greater organizational agility in meeting workforce needs.</p> <p>A broader pool of high quality candidates may be attracted to term positions if there is a possibility of conversion to permanent status.</p> <p>Appointments of 6-year duration are better suited for the nature of program/project work within NASA.</p>
<p><b>Pay Authority for Critical Positions</b></p>	<p>Authorizes the Administrator to set pay up to level of Vice President for critical positions requiring expertise of extremely high level.</p> <p>Up to 10 employees may be paid under this authority at any time. Authority may be used only in retaining a NASA employee or in appointing individuals who were not employees of other Federal agencies.</p>	<p>Currently, requests to pay an individual under this authority must be approved by OMB in consultation with OPM, and monetary amount is limited to rate of level I of Executive Schedule. Delegating approval authority to Administrator simplifies and expedites the process.</p> <p>Authorizing salary up to the Vice President's level would enable NASA to attract exceptional talent.</p>
<p><b>Extension of IPA Assignment Period</b></p>	<p>Permits IPA assignments to be extended for up to 6 years for long-term projects, rather than the current 4-year limit.</p>	<p>Accommodates the occasional need to retain an IPA employee beyond 4 years to provide needed continuity in supporting an important program or project.</p>
<p><b>Distinguished Scholar Appointment Authority</b></p>	<p>Provides a streamlined appointment authority for professional and scientific positions, grades GS-7-12, that have a positive education requirement, based on meeting GPA academic criteria. Individuals qualify based on academic performance in a field related to the position. Can be used in hiring individuals who have graduated within the past two years.</p> <p>Hiring is simplified, but veterans' preference will apply, and public notice is required.</p>	<p>Streamlines the hiring process, enabling NASA to make job offers to high-quality graduates more expeditiously, and thereby compete more successfully for scarce talent.</p> <p>Emphasis on academic credentials provides alternative approach to the traditional examining process that may fail to give due weight to academic accomplishments.</p>

<p><b>Enhanced Travel Benefits for New Hires</b></p>	<p>Permits, but does not require, NASA to provide new appointees with the same travel and relocation benefits for a newly hired employee as are authorized for a current employee who transfers to a new duty location.</p> <p>Benefits would include: househunting trip, reimbursement for some residence sale and purchase expenses, temporary quarters allowance, miscellaneous expenses, relocation services.</p>	<p>Relocation expenses can be costly; inability to reimburse a quality candidate for such expenses often deters the candidate from accepting a job.</p> <p>This authority provides a significant recruitment incentive, enabling NASA to compete more successfully with the private sector in attracting new talent.</p> <p>This benefit is particularly important in attracting mid/senior-level employees and/or attracting new hires to high cost areas.</p>
<p><b>Enhanced Annual Leave Benefits for New Hires</b></p>	<p>Enhances annual leave benefit for new hires by crediting relevant private sector experience toward accrual rate. The benefit applies only while employed with NASA.</p> <p>Authorizes SES/ST/SL employees to accrue annual leave at the maximum rate of 8 hours per biweekly pay period.</p>	<p>Mid-career employees should receive vacation benefits commensurate with their status instead of earning leave at the "entry level" rate. Often new employees with extensive private sector experience must give up vacation benefits to work for the Government. These accrual provisions will put mid-career and senior level employees on a par with others at similar career levels.</p> <p>Offering annual leave credit to new employees is an attractive recruitment incentive similar to what the private sector can offer, and supports the need to offer a positive work environment.</p>
<p><b>Expanded SES Limited Appointment Authority w/Eligibility for Bonuses</b></p>	<p>Allows limited term appointments to SES career reserved positions.</p> <p>Permits limited appointments for situations other than project-based needs or emergencies.</p> <p>Extends eligibility for cash bonuses to limited term appointees.</p>	<p>Simplifies the SES limited appointment authority to better meet short-term staffing needs, such as when a position becomes unexpectedly vacant.</p> <p>Permits limited term appointees to be rewarded in the same fashion as career SES employees for contributions they make to NASA.</p>
<p><b>Superior Qualifications Pay</b></p>	<p>Provides flexibility in setting pay with internal actions (e.g. reassignments) if employee has exceptional qualifications for the position, using same criteria used in setting pay for appointments of individuals with superior qualifications.</p>	<p>Expands concept of a superior qualifications appointment to attract current employees to positions for which the individual is exceptionally well-qualified or for which NASA has a special need.</p>
<p><b>Scholarship for Service Program</b></p>	<p>Authorizes NASA to provide scholarships to full-time students at U.S. institutions of higher education pursuing studies in disciplines needed by the Agency in exchange for a year-for-year service obligation upon graduation.</p>	<p>Provides incentive for students to pursue careers in disciplines needed by NASA, thereby providing a source of candidates for future needs.</p> <p>Enables NASA to compete more successfully for S&amp;E talent.</p>

	Scholarship support is limited to 4 academic years.	Provides a source of candidates to replenish anticipated attrition.
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