



INTERNATIONAL FEDERATION OF
PROFESSIONAL AND TECHNICAL ENGINEERS
AFL-CIO & CLC

Testimony of Gregory J. Junemann
**President, International Federation of Professional &
Technical Engineers, AFL-CIO & CLC**

Prepared For:

House Subcommittee on Space & Aeronautics

Hearing:

***The NASA Workforce: Does NASA Have the Right
Strategy and Policies to Retain and Build the
Workforce It Will Need?***

Delivered by:

Dr. Lee Stone, Legislative Representative NASA Council of IFPTE Locals

Tuesday, June 13th, 2006 - 10:30 a.m.

2318 Rayburn House Office Building, Washington, DC

Thank you Chairman Calvert and ranking member Udall for providing the International Federation of Professional and Technical Engineers, NASA's largest Union, this opportunity to present our perspective on the workforce challenges facing NASA today. It is an honor for me to represent IFPTE and to stand in for President Junemann, who could not make it because today he is with his son, a Marine who has returned from Iraq for just a few days.

IFPTE's primary interest in testifying today is to provide forceful advocacy for maintaining the broad technical excellence and independence of NASA's civil service workforce that has served the Agency well for decades. Last February, we believe that NASA took a wrong turn in its workforce management and planning. We hope that, after careful consideration of the facts presented here today, the Sub-Committee will support an urgently-needed course correction. Indeed, the new Administrator appears poised to steer HR in a better direction. We hope that this hearing will prove to be the turning point.

IFPTE fully endorses the "ten healthy Centers" philosophy put forward by Dr. Griffin. This firm endorsement of Field Centers, together with appropriate re-invigoration of NASA's commitment to Aeronautics, Scientific Research, and cutting-edge Technology Development will make for a healthy Agency. Since last February, NASA's Human Resources (HR) however has remained engaged in an ongoing downsizing effort, inconsistent with ongoing programmatic planning, paying inadequate attention to the long-term mission needs of the Agency.

Recent history:

In July of 2002, then-Administrator O'Keefe testified to the Full Committee that NASA was facing a looming workforce crisis because its core technical staff was rapidly nearing retirement and had not been properly replenished over the years. He asked for, and was granted, several changes to Title 5 that afforded him new authorities. These new powers were specifically designed to retain and postpone the retirement of NASA's technical staff so that they might serve as mentors while the Agency aggressively recruited the next generation of young scientists and engineers. This was a good plan, and IFPTE endorsed Chairman Boehlert's Flexibility Act to give NASA management the tools they requested to implement that plan.

Rather than moving forward with hiring this urgently-needed next generation of scientists and engineers, NASA actually proceeded in the opposite direction:

- In February of 2005, NASA management testified to Congress that there would be workforce stability and that there would be no layoffs for two years. Meanwhile, senior management had just approved and initiated a workforce transformation plan designed to reduce NASA's civil service complement by 2,673 employees (the number of retirement eligible employees) through increasingly aggressive tactics, culminating in a Reduction-In-Force (RIF) before the end of FY2006 (Appendix A – note in particular the charts on p. 14 and 15). Rather than working to retain what remained of its Apollo-era engineers and scientists, the plan targeted retirement eligible staff for buyouts and pressured them to retire.
- Frustrated by the legal requirement that 75% of the Flexibility Act bonus money is reserved for technical staff, management barely used the new flexibilities at all. Meanwhile, on average, they gave larger bonuses to Senior Executive Service staff than any other federal Agency (Appendix B). They also made little use of the new authorities to recruit technical employees or to convert term employees to permanent status.

- Since February of 2005, threats of RIFs and/or forced relocation have been openly used to accelerate attrition with little regard to the skills being lost. In the several rounds of buyouts performed over the last two years, employees with skills listed as “critical needs” were offered buyouts. Many talented and experienced NASA employees left the Agency and the morale and productivity of those who remained were seriously harmed.
- Further evidence of the lack of thought in this process can be seen in the fact that the “critical needs” list has changed dramatically since its inception (Appendix C). Many skills deemed critical in 2004 are now listed as excess capacity and vice versa (e.g. Human Factors was deemed critical and slated for growth in 2004, yet in 2005 became slated for reduction; Computational Fluid Dynamics and Rotorcraft were slated for near-elimination in 2004, but are now highlighted in NASA’s new Aeronautics Program).

In the NASA Authorization Act of 2005, Congress once again called on NASA management to provide a coherent and thoughtful “Workforce Strategy” that the Science Committees could use to guide their oversight of the Agency’s realignment in support of the Vision for Space Exploration. The plan delivered to Congress was however seriously deficient. IFPTE provided two analyses of the draft submitted to us: one providing traditional “consultation” on policy weaknesses in the Strategy (Appendix D) and a second that addresses the failure of the document to meet the minimum standards set forth in the Authorization Act (Appendix E). Unfortunately, despite our input, NASA management did not modify their draft in any substantive way before delivering it to Congress. The bottom line is that while there are a number of legitimate ways of overseeing a workforce transformation that could be the focus of discussion here, NASA’s Workforce Strategy simply does not have sufficient content to engender that discussion. Indeed, even last week’s announcement of the Constellation “Work Assignments,” an essential component of the ten Healthy Centers philosophy, did not have any concrete manpower and budget estimates associated with them. Two months after Congress explicitly asked for delivery of these key workforce numbers, NASA management continues to work the issue and has not given an indication when those numbers will be provided.

NASA’s Workforce Strategy – April 2006:

IFPTE’s response to the Draft Workforce Plan identified three key general issues at the core of the problem with their current HR activities.

First and foremost, full-cost recovery of civil service salary is the key driver of the current crisis:

- When NASA claimed to convert over to “full-cost accounting” in FY04, it actually converted over to a full-cost recovery system that allowed distant program managers to siphon salary and facilities money away from the Field Centers. By giving so much power to program managers, who place a low priority on preserving long-term institutional capabilities, labor and facility costs were low-balled to increase managers’ discretionary spending thereby precipitating two crises: 1) key facilities went bankrupt and 2) uncovered capacity was born. The Agency has recently taken care of the former problem by establishing the Shared Capability Assets Program (S-CAP) to provide stable funding to otherwise “uncovered” facilities, in response to key language in the Authorization Act. Unfortunately, the analogous threat to NASA’s intellectual capabilities and corporate knowledge remains unaddressed.

- It is a fallacy that uncovered capacity (personnel not funded directly by program funds or by “good” G&A) is idle or unneeded capacity. Program managers are using what was once civil service salary money to pay for procurement and that, in turn, makes Center management divert money that once was available to pay for programmatic activities to increase the Center G&A needed to pay for the “uncovered” salaries. The net effect of this circular juggling act is the creation of the false perception that there is a mass of civil servants who are not performing useful work and are not needed. Uncovered capacity keeps increasing, despite all the recent downsizing activities. Last November, HR told IPFTE that there were only 850 uncovered employees left. In December, about 350 took a buy-out or early-out. Yet, HR now claims that the uncovered capacity is back up to 1,000. How can this be? Uncovered capacity is a fiction, an arbitrary number created by management’s desire to convert people into money to pay for the short-term financial shortfalls created by unfunded programmatic mandates (e.g., moving up the CEV delivery date to 2012 or earlier).
- The conversion to “full-cost accounting” has paradoxically provided no useable accounting data on actual cost. Program management first almost arbitrarily assigns a work group a list of charge numbers (Work Breakdown Structures or WBSs) ostensibly representing the various programs (and/or G&A) supporting the employees in that group. Employees are then instructed by line management to log their fixed ration for each WBS regardless of what work was actually performed. This process is required by the Integrated Financial Management System that creates hundreds of salary bins that need to be precisely spent (or funds will run out or be left over). Thus, the false accounting of work is simply a regurgitation of management’s fictitious workforce planning. This opaque process is related to NASA’s ongoing inability to cleanly pass a financial audit.
- The assignment of work is then done completely independently, such that some activities are performed yet don’t show up on the books (e.g., some employees tasked to work on the Smart Buyer Project were not provided with a WBS so they charged time elsewhere) and some “work” is charged that is not actually performed (e.g. upper-level line managers routinely charge their time to programs although they generally perform no programmatic work. This is used as a means to artificially reduce Center G&A).
- The bottom line is that NASA’s bizarre version of “full-cost accounting” does not account for the work its employees are actually performing. The false data generated can neither be used to make NASA more efficient/effective, nor to do any rational financial or workforce planning.

Second, HR has is relying overwhelmingly on term positions.

- Of the 1,426 outside hires since the beginning of FY2005, only 403 (28%) were full-time permanent employees, leaving most of the remaining 1,023 employees to be separated from the Agency in 2 to 6 years, despite NASA’s investment in training them.
- The decision to offer term or permanent status should be based on a careful technical analysis of the job requirements and of the long-term need for the relevant skills, but no such analysis is happening. Employees are hired in as terms simply to undermine the civil-service tenure process; many are slated for long-term employment, but are simply not hired as “perms.”

- The extensive use of term positions is threatening the quality of our technical staff. The best and brightest new scientist and engineering graduates are being wooed by MIT, Johns Hopkins, Carnegie Mellon, Stanford, Cal Tech, UC Berkeley and many other high-caliber academic institutions. Premier academic institutions offer tenure. In the past, NASA has been able to get its fair share of these candidates because it offered a similar package of benefits and a similarly excellent intellectual environment. Term positions, together with full-cost accounting and the large-scale de-scoping of NASA's in-house Research & Technology programs, hinder NASA's ability to recruit the best talent. If tenure were a bad idea, elite academic institutions would have abandoned it years ago.
- Tenure is the foundation of intellectual freedom. Permanent civil service employees are more likely to summon the courage to speak truth to power and perhaps save the Agency from another catastrophe. Term employees, or even uncovered permanent employees under the threat of RIF and forced to plead for a charge number, are much more vulnerable to the pressure to go with the flow. They might remain silent at some crucial moment, one of the major concerns brought to light by the Columbia Accident Investigation Board.
- Tenure is the foundation of institutional memory. Mission success, especially at an Agency that is embarking on a 30 year mission to get humans to Mars and back, will be put at considerably increased risk if its technical staff is constantly turning over. We need the same young engineers, who design and test the Crew Exploration Vehicle, to be available as older engineers when NASA is facing some as-yet-unforeseen technical problem down the road.

Third, NASA has based its plan on a poorly implemented, improperly interpreted, and ill-defined Competency Management System (CMS).

- HR's CMS analysis does not distinguish between 100 employees who have 5% of their salary uncovered (a healthy situation) from 95 fully covered and 5 fully uncovered employees (a less healthy one). Given that people are not easily sliced, the competency numbers are *a priori* not particularly useful for determining or forecasting the number of at-risk employees.
- The CMS dictionary vocabulary is vague, overlapping, continuously under-revision, and at odds with the vocabulary used for the Critical Needs List. Some competencies are so vague as to be useless (e.g., "Program Management" – program success depends on having specific skills tailored to the specific program, and not generic ones). What is the difference between the "Power and Propulsion" competencies that we plan on increasing and the "Advanced In-Space Propulsion" and "Power Systems" competencies that we plan on decreasing (both on p. 18 of the Workforce Strategy)?
- When the CMS was first presented to IFPTE in April of 2003, we were told that there would be multiple, multidimensional databases (that would include the primary and a series of secondary competencies of current positions, current employees, future demand, etc.) and that most of these databases would be validated and certified by the end of FY03. Three years later, HR is still only using the primary competency of the least useful "position" database, which contains very little information about the skills and capabilities of the current workforce.

In addition to these key flaws above, HR's Workforce Strategy simply does not provide the information about NASA's workforce sought by Congress under the Authorization Act (see Appendix E) nor does it provide an analysis of NASA's management structure.

Balancing NASA's workforce:

NASA has recently experienced a steady increase in the proportion of non-clerical administrative positions (see Appendix F). NASA now has only 2.1 scientists and engineers for every administrative position. This is clearly unbalanced. Any successful, competitive, private-sector institution would be looking to streamline its management structure long before it would look to eliminate technical experts and R&D employees. Current HR practices are however only making a bad situation worse (workforce numbers here and above are from the NASA's Workforce website: <http://naade02.msfc.nasa.gov/workforce/> and are current as of May 27th 2006).

- Of the 403 new full-time permanent employees hired since the onset of FY2005, only 90 (22%) were scientists or engineers while 299 (74%) were non-clerical administrative.
- Of the 1,905 full-time permanent employees lost since the beginning of 2005 (Note: >10% attrition over 20 months), 906 (48%) were scientists or engineers while only 646 (34%) were non-clerical administrative. This is reflective of a random attrition model, as opposed to properly controlled attrition that encourages the retention of technical skills.
- NASA has given out 981 buyouts since the beginning of FY2005, 455 (46%) to scientists and engineers but only 272 (28%) to non-clerical administrative employees, again reflective of a skills-blind downsizing effort.
- NASA management has been limiting the hiring of rank-and-file technical employees (i.e. many Centers have been working under a near-total hiring freeze) while increasing the hiring of administrative positions (e.g., up to 600 new financial/business management positions are foreseen on p. 16 of their Workforce Strategy, in addition to the hiring going on at the newly created NASA Shared Services Center).

IFPTE believes that NASA benefits greatly from the synergy generated by its combined federal and private-sector workforce. We believe that NASA has already achieved the minimum healthy balance between its current full-time permanent civil-servant workforce of 16,644 and its dedicated contractor workforce of around 40,000. There has already been a nearly 30% decrease from the 23,695 full-time permanent civil servants employed in FY94, yet NASA now has much more on its plate. Any decrease in the civil-service component that further raises the ratio of contractors to civil servants (currently already at around 2.4:1) puts mission success at increased risk by potentially leaving NASA less able to perform proper technical monitoring and oversight of its contractor efforts (see the Columbia Accident Investigation Board final report).

The Agency needs to engage more scientists, engineers, and technicians, and fewer managers, deputy managers, associate managers, and assistant managers. NASA's dedicated technical workforce at all of its Centers, both civil servant and contractor, stands ready, willing, and able to support NASA's missions and there is more than enough technical work to go around.

Attrition:

Attrition needs to be controlled, not blindly accelerated. If NASA does absolutely nothing, its civil servant workforce will soon fall below 16,000, which is even lower than the asymptotic numbers contemplated in the aggressive downsizing plan. Just to maintain the reduced workforce levels projected in the Workforce Strategy, NASA must perform an intelligent combination of aggressive recruitment and carefully targeted voluntary separations. The Workforce Strategy should focus on a hiring plan, not last year's layoff plan that is still working its way through its timelines, impeded only by the RIF-moratorium in the Authorization Act of 2005.

Work transfers:

Administrator Griffin deserves considerable praise for realizing that all of NASA Centers should share in the work opportunities (and responsibilities) provided by the Constellation program, according to their capabilities and facilities. This idea, however, has been difficult to implement fully, and is ultimately only a short-term solution.

- Two successive attempts to shift work from over-funded to under-funded Centers have not fully come to fruition. We urge Administrator Griffin to persevere in this critical effort to achieve the budgetary balance needed to support ten healthy Centers. The Exploration Centers must forge greater collaboration with the other Field Centers in order to progress beyond the current crisis and ultimately to make NASA stronger.
- The Constellation work assignments are largely short-term technical oversight tasks for hardware development programs, with the lion's share of the work ultimately being handed over to the private sector. These assignments do not cover many of the Agency's world-class scientists and technology developers, whose innovative research is critical for the long-term health of the Agency and the ultimate success of the Vision for Space Exploration. Visible investment in self-initiated research and development (R&D) is also essential for recruiting and retaining the best and brightest young minds, interested in cutting-edge research. Even more importantly, after the current flurry of spacecraft designing is over, many employees could find themselves "uncovered" once again. The only sustainable solution is for NASA to reverse its current trend of severe cuts to its Aeronautics, Exploration Research and Technology, and Science programs and to resurrect and maintain a strong cross-cutting R&D effort that benefits all missions.

Technical Independence:

The reason that premier Universities continue to embrace tenure as a key component of their workforce planning is that, not only does this allow them to compete successfully for the best new talent, but also because it is a proven path to academic freedom and credibility. In the federal sector, comparable civil-service protections translate into the ability to speak truth to power. Even tenured NASA engineers and scientists continue to face the potential threat of reprisal for expressing technical views that are at odds with management. Recently, we have witnessed evidence that the Public Affairs Office has altered or suppressed scientific expression on the Big Bang, climate change, and astronaut survivability. While we applaud the new Administrator's repudiation of such behavior, it remains obvious to many that speaking out still has its price. NASA still needs to improve on this. Full-cost recovery of salary, RIF threats, and term hiring only serve to undermine the independence of NASA's technical experts. Successful policies and missions rest on a solid backbone of truthful, reliable, fearless data gathering and analysis by experts, who are shielded from political or financial pressure.

Recommendations:

In order for NASA to move forward and better support all of its missions, IFPTE would like to submit the following recommendations for NASA management:

- 1. Pledge not to lay-off any NASA employees in the foreseeable future.**
 - Civil Servant employees must once again feel respected and valued.
 - The best and brightest young engineering and science graduates need once again to see NASA as a great career move, comparable to accepting a job at a premier academic or private-sector research institution (e.g., MIT or Google).

- 2. Request legislation to allow limited, targeted, and enhanced buy-out authority.**
 - Many non-critical employees would like to retire immediately, but need to stay on a few more years for financial reasons. A more reasonable compensation package would greatly help NASA and would save the tax payer a lot of money in only a couple of years.
 - The industry standard is one year's pay, which is much more than NASA's \$25,000.

- 3. Reject the failed policy of full-cost recovery of civil service salary.**
 - Set up a salary equivalent to the S-CAP account to cover 25% of all technical employees' time. This would more honestly cover training, outreach, proposal writing, center-supported high-risk high-payoff pilot research, Space Act agreements that don't involve salary, and other management assignments that are currently falsely assigned to programs.
 - This would not only eliminate the "uncovered" problem once and for all, but would also empower line managers who currently feel disenfranchised by "full-cost."

- 4. Embrace genuine and auditable full-cost accounting (not full-cost recovery).**
 - Require that all employees log their time accurately, reflecting the work performed as assigned by one's supervisor, instead of back-filling what center or program management wants to see.
 - Use the honest data acquired to perform valid workforce planning (indeed by noting the deviation between predicted and actual work hours performed in each category, one can improve the future financial and workforce planning processes).
 - Require all managers to charge their salary to an appropriate G&A account, unless they actually perform technical work for a program. This frees up program dollars to support actual programmatic work and properly logs increasing G&A costs so that they can be properly identified and controlled.
 - Require a clean audit of any full-cost accounting before allowing NASA to make fundamental programmatic or workforce decisions based upon that accounting.

5. Re-embrace NASA's Aeronautics, Science, and Technology missions.

- See IFPTE's letter to Dr. Marburger for our analysis of the FY07 budget's adverse impacts on NASA science and technology capabilities (Appendix G)
- See IPFTE's letter to Chairman Shelby and ranking member Mikulski with our FY07 appropriations recommendations (Appendix H). Since this letter, NASA has effectively reprogrammed the current Robotic Lunar Exploration Program (RLEP) program and re-channeled the funds into a new Lunar Precursor and Robotic Program (LPRP), which appears to be shifting its focus to the development Lunar Exploration Architecture, including the Lunar Surface Access Module (Appendix I). This conversion of Science funds into mostly hardware design, development, and validation funds represents an additional cut of as much as \$134.6 million to the FY07 Science budget from that appropriated in FY06.

In conclusion, IFPTE is greatly encouraged by Dr. Griffin's recent effort to distribute Constellation work more fairly and intelligently across the Centers. We also praise his decision to reject many of the technical decisions of his predecessor and to keep more of NASA's technical work in-house. We now ask that he complete the healing process by rejecting his predecessor's ill-advised workforce plan and embrace a forward-thinking approach whereby all NASA's career employees can once again feel like full stakeholders in NASA's Vision. Let us work together to do the world-class Aeronautics, Science, and Exploration work that the American people deserve and expect of us. NASA employees all across the Agency are ready, willing, and more than able to do so, if simply given the chance.

Finally, we would also like to thank Chairman Boehlert for his long and dedicated career of public service. He has done great things for the American people and for NASA. On behalf of the many thousands of NASA employees that we represent, IFPTE thanks him and wishes him well in the next phase of his life. The nation is losing one of its wisest lawmakers.

Once again, Chairman Calvert and ranking member Udall, IFPTE thanks you very much for the opportunity to bring these important issues to your attention.

Appendices

Appendix A – NASA’s February 14, 2006 Workforce Plan

Appendix B -- FY2004 SES bonuses

Appendix C -- 2004 versus 2005 Critical Needs List

Appendix D – IFPTE comments on Draft Workforce Strategy

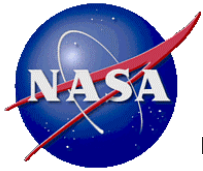
Appendix E – IFPTE (local 30) letter to NASA General Counsel on deficiencies in the draft Workforce Plan

Appendix F – Increasing management burden on the Agency

Appendix G – Mr. Junemann letter to Dr. Marburger on NASA cuts to Science and Technology programs

Appendix H – Mr. Junemann letter to Chairman Shelby and ranking member Mikulski on NASA’s FY07 Appropriations

Appendix I – E-mail from Marshall Center Director to staff on the conversion of RLEP to LPRP



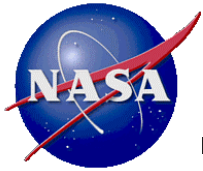
Workforce/Institutional Transformation Status

James L. Jennings

Associate Administrator,
Office of Institutions & Management

February 14, 2005

Appendix A



Transformation Tools

Office of Institutions & Management

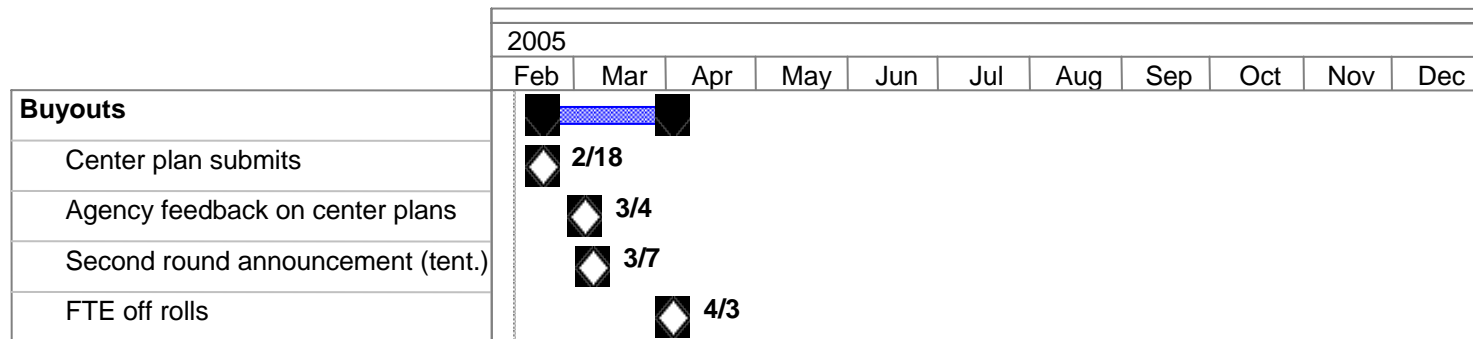
- Buyouts/Early-outs
- Job Fairs
- Manage Tactical Program/Project Decisions
- New Legislation
- Brokered Transfer of Work
- Contracted Work Review
- Review of Work Available for Competition
- Core Competency Health Assessment
- Near term Facility Closures/Consolidations
- IRTT (Institutional Realignment & Transformation Team)
- Directed Reassignments
- Involuntary workforce realignment preparation

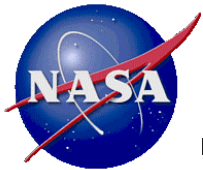


Buyouts/Early outs

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- Buyout/early out conducted in 11-12/2004 at ARC, GRC, LaRC, MSFC, and DFRC
 - Results yielded 314 actual versus 450 target
- Second round of buyout/early outs to be conducted at all Centers and HQ consistent with guidelines
- Center plans will:
 - Establish targeted number of buyouts by workforce competency
 - Ensure workforce competencies bought out are not needed elsewhere in the Agency
 - Do not buy out a position unless it will not be refilled, or will be refilled with an employee whose position has been identified as surplus from another center
- Applications window for second round: March 2005











Job Fairs

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- Provide employees at centers with uncovered capacity awareness of job opportunities at other NASA centers.
 - Employees have active role in career determination
- Job fairs will be conducted at ARC, DFRC, GRC, LaRC, and MSFC. Recruiters and hiring managers from HQ, GSFC, JSC, KSC, and NSSC will attend these events.
- Positions to be filled through voluntary reassignments.
- Positions and recruitment information will be made available at the transformation website

Job Fairs	2005						
	Feb	Mar	Apr	May	Jun	Jul	Aug
LaRC		 2/23					
GRC		 2/24					
DFRC	3/1	 3/2					
MSFC	3/1	 3/4 (tentative)					
ARC (TBD)	3/3	  3/5					



Manage Program/Project Decisions

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- Addressed at January 2005 Leadership Council meeting
 - Goal is to provide some stability to Centers during this difficult transition period
- Mission Directorates and Corporate G&A budget owners should not move work from Centers in FY05 and FY 06 because of increases to indirect rates
- Mission Directorates, Center Directors and Center CFOs must coordinate program/project decisions
 - Decisions and funding flows need to consider impact on Center G&A
- Center CFOs should receive notice of any transferred work contained in guidelines
- Decisions should be reflected in Center Implementation Plans

	2005												2006			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Manage Tactical Program/Project Decisions																
Center report impacts to MD				◆ 4/1												
Preliminary Report - MD to IC				◆ 4/7												
G&A rates established				◆ 4/15												



New Legislation

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- Eight provisions have been included in the draft FY06 Authorization Bill
 - Authorization should be cleared by OMB and transmitted to Congress 2/15
- Provisions include:
 - Voluntary separation incentives
 - Conversion allowance
 - Temporary continuation of coverage of health benefits
 - Waiver of annuity offset for reemployed annuitants
 - Waiver of requirement for IPA'ed civil servants to return to gov't organization after completion of assignment
 - Application of post employment restrictions for New Organizational Model
 - Enhanced Use Leasing
 - Retention of proceeds from sale of real and personal property
- Measures may not be in place in time to effectively mitigate current issues

		2005											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New Legislation	1/3	2/16											



Brokered Transfer of Work

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- Discussed at January 2005 Leadership Council
- Mission Directorates in coordination with Center Directors will identify proposed transferable work (i.e., from one center to another)
 - Limited applicability
 - Work to minimize implementation inefficiencies
- Develop process to communicate potential transfer of work between Centers

		2005									
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Brokered Transfer of Work	2/1										6/1
SMD discussion retreat (GSFC & ARC)			3/1								



Contracted Work Review

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- Short-term efforts: Review existing contracted work and consider appropriate civil servant versus contractor balancing.
 - Extension of process Centers have historically used to manage a mixed workforce, with civil servants providing the base capability and contractors handling the above base flexibility.
 - Civil service workforce must be sustained at a "critical mass" level to support core competencies.
 - Centers must ensure coordination with legal and procurement offices. Actions that raise formal objections may be difficult to sustain.
- Long-term efforts: OCFO/Procurement is working on guidelines/process regarding formal competitions for previously contracted work.
 - Near term actions – delivery of candidate list of work for transfer.
 - Example: Review contracts whose base period are due to expire in the near term.

Short-term actions	2005												2006
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	
Contracted/Civil Service Work Balancing	[Blue bar from Feb to May]												[Blue bar in Jan]
Center coordination with proc/et.al.	[Blue bar from Feb to Apr]												4/10
MD /IMD validate business base	[Blue bar from Mar to Apr]												4/15

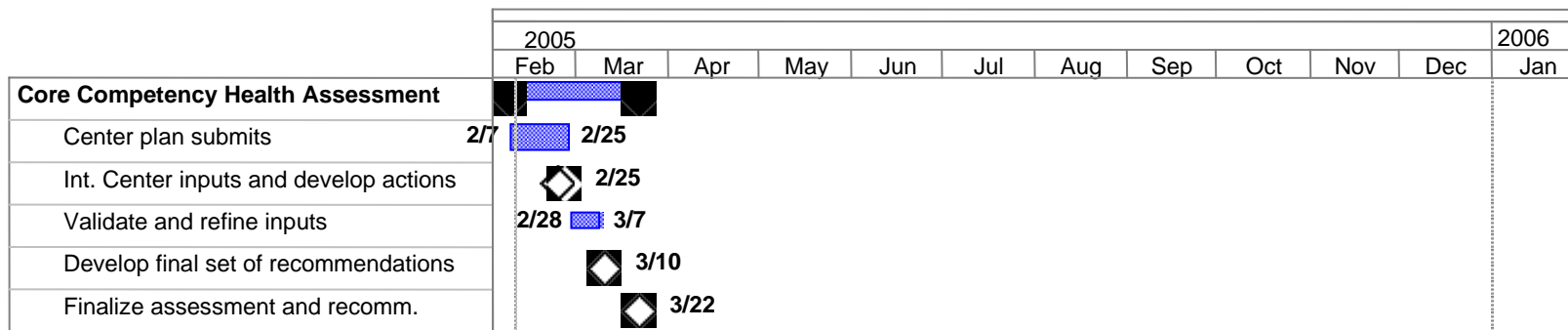
Long-term actions	2005												2006
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	
Contracted Work Formal Competition (A-76)	[Blue bar from Feb to Dec]												
Guidelines/Process developed (tent)	[Diamond icon]												2/18
Center del. Of candidate list to OCFO	[Diamond icon]												3/3



Core Competency Health Assessment

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- Evaluate the health of the NASA core competencies to ensure that they are adequate and fully responsive to our mission objectives.
 - Supports strategy to sustain Agency-wide set of core competencies to guarantee long-term mission success
- Core competencies have been identified at Agency level by Center
- Coordinate competency health assessment to align with needs of ESMD investment strategy
- Core Competency strategy/health will be periodically reassessed to maintain synergy with continued Agency transformation





Review of Work Available for Competition

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- Evaluate projected work not committed contractually
 - Assess how acquisition options could help mitigate workforce issues
 - Understand schedule for planned selection decisions
- Results of Core Competency Health Assessment need to be factored in to future competitions prior to moving forward.
- Mission Directorates identify discreet work items and estimated funding.
 - Consolidated list to OIM 2/18

		2005											2006
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Projected Work Review		[Bar spanning Feb to Dec 2005]											12/28
	2/4												
Consolidated list to OIM	◇ 2/18												

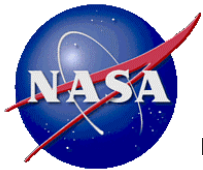


Near-term Facility Closures/Consolidations

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- Center recommendations for facility closures are being analyzed by Real Property Mission Analysis (RPMA) Team.
- Develop process to ensure availability and viability of unique facilities needed for mission and vision.
- Process and closure plans to be coordinated through the HCE.
- Center closure reclamation to be presented to the PMC.

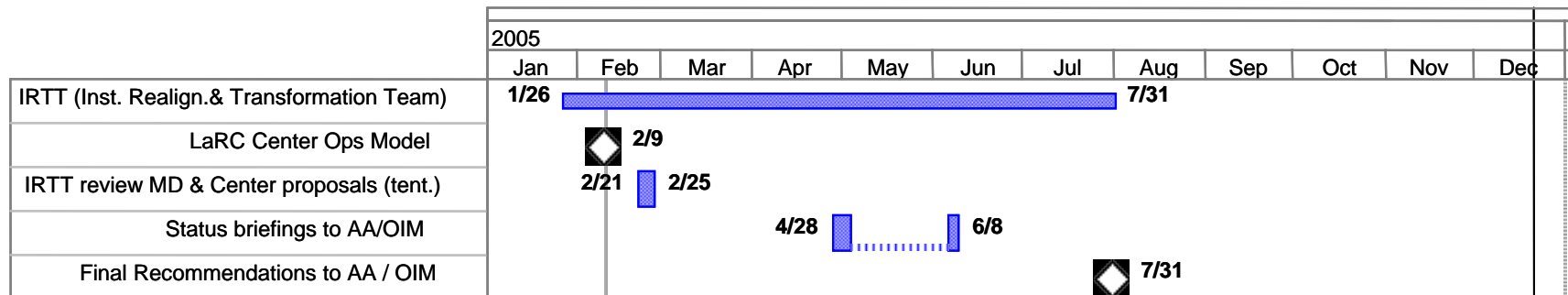
		2005										
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Closures/Consolidations (short term)	2/7	■		4/10								



IRTT

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- Institutional Realignment and Transformation Team instituted to recommend specific alternate institutional alignments for NASA Center transformation
 - Combined efforts of NASA Organization Model Evaluation Team (NOMET) and Real Property Mission Assessment (RPMA)
 - NOMET has prepared final report and it is in the final editing process
 - RPMA is preparing final analysis and recommendations for real property balance and alignment
- Mission Directorates and Centers working in parallel in reviewing organizational structures and real property
- IRRT will integrate results of Agency teams, Centers, and Mission Directorates to develop an Agency-wide perspective on institutional realignment and transformation





Directed Reassignments

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- Facilitate inter-center movement of skills to ensure critical skills remain available.
- Need dependent on success of other mitigating activities (buyouts, early outs, etc..)
- Center managers with HR office identify surplus positions at “losing” centers and needed positions at “gaining” centers.
 - Seek volunteers if possible
 - Process in place if volunteers not available
- Communication with employees is key.
 - Notification of positions considered for realignment
 - Notification in writing of Center management decision
 - Notify affected employees of option if declining directed reassignment
- Consider full cost implications.
- Specific actions and due dates remain TBD.

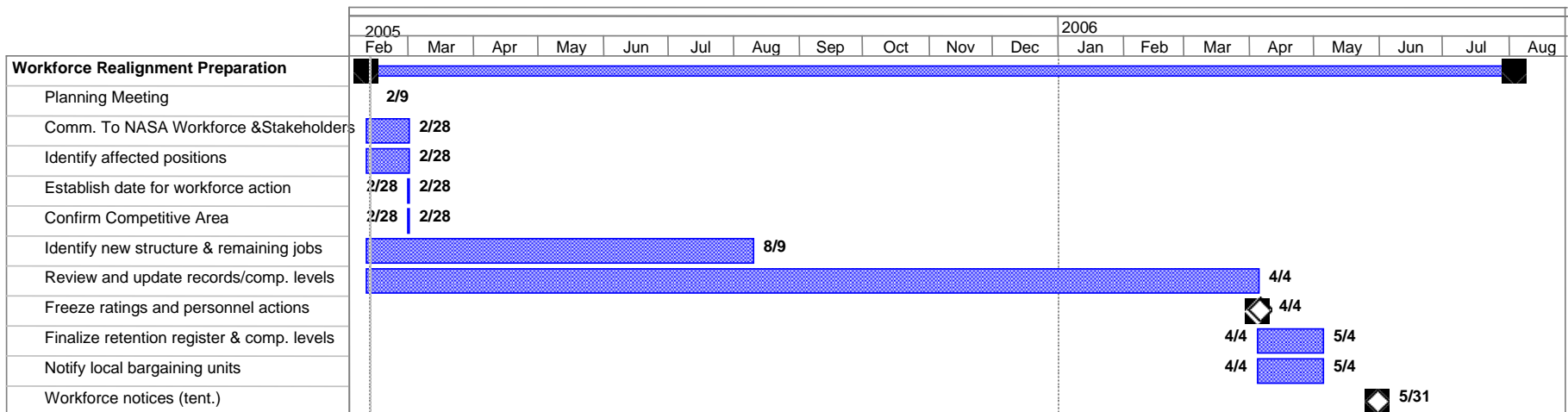
	2005												2006								
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Directed Reassignments				6/1																8/31	



Involuntary Workforce Realignment

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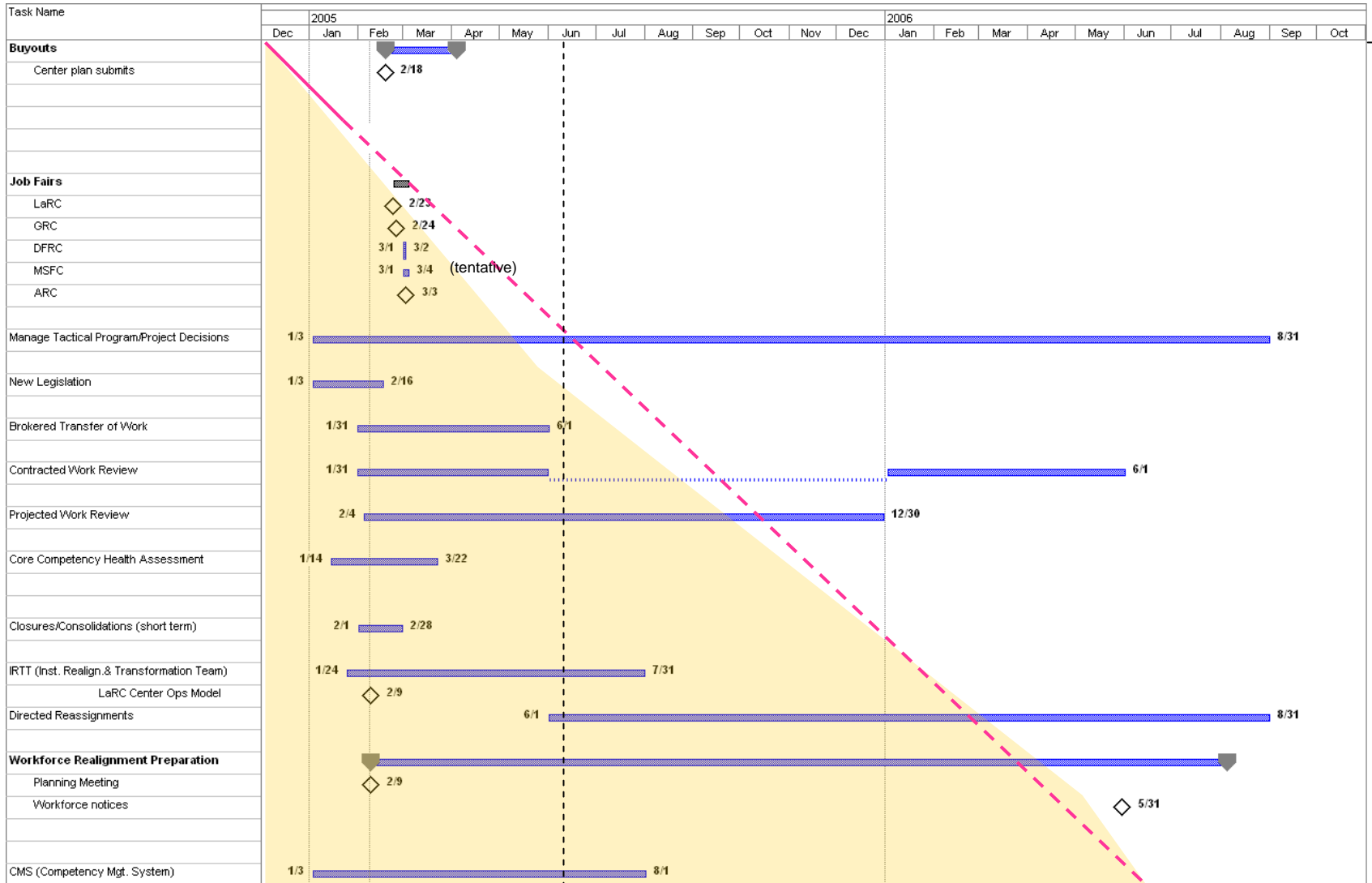
- Adverse activities to be taken after all other mitigating strategies to alleviate current workforce issues have been implemented
- Activities require 18 months of lead time
 - Team is establishing interim planning dates (dates below are tentative)





Near Term Institutional Transformation Schedule

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— Actuals
 - - - Projected Actuals

Transition Target Numbers

2673

1700

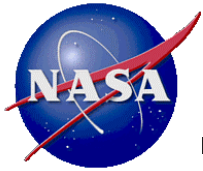
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Transformation Actions Status

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Action	Lead For Action Implementation	POC(s)	Status To Date	Next Key Milestone	Key Issues	Activity Completion Date	Results
Buyouts/Early outs*	OIM	JoAnne Mueller (202)358-1202	First round completed at 5 centers. 2nd round to be implemented Agency-wide	Centers to submit buyout plans for review 2/18	Identification of surplus skills	4/3/2005	Round 1: 450 projected 314 actual
Job Fairs*	OIM, with Center Directors	Melissa Riesco (202) 358-1518 Charlotte Canon (757) 864-2515	Schedule in place. STARS implementation in work.	2/23 at LaRC	Congressional Sensitivity. Employee uncertainty	3/3/2005	TBD
Manage Tactical Program/Project decisions for near term stability	Mission Directorates and Corporate budget owners	Mission Directorate Business Leads	Discussed at January Leadership Council	Center CFO notice to OIM of any transferred work upon receipt of guidelines		Ongoing	TBD
Pursue new legislation	Legislative Affairs. With OIM	Deb Hollebeke (202) 358-1924 Carolyn Davis (202) 358-0046	8 Provisions included in FY06 Auth Bill. Draft sent to OMB.	Submit to hill mid February	None to date	Passage of authorization bill.	Facilitate direct workforce actions and overall transformation.
Review of Existing Contracted Work	OCFO/Procurement, with Center Directors	Ron Lentz (202) 358-1064 Center CFOs	Centers analyzing contracted work for applicability, coordinating with Procurement.	4/1/05 Centers have candidate list of transferable work to MDs	Boundary conditions included in guidelines	7/1/2005	TBD
Review of Projected, Uncommitted Work Available for Competition	OCFO/Procurement, with Mission Directorates	David Schurr (202) 358-4489	Mission Directorates identifying discreet work items and estimated funding.	Develop consolidated list 2/18.	Estimating FTE by work item. Timeliness of work availability.	Mission Directorates validate Center business base assumptions.	TBD



Transformation Actions Status

Office of Institutions & Management

Action	Lead For Action Implementation	POC(s)	Status To Date	Next Key Milestone	Key Issues	Activity Completion Date	Projected Results
Core Competency Health Assessment	ADA/SI, with Mission Directorates and OIM	Jerry Simpson (202) 358-1011 Rick Keegan (202) 358-0765	Refined definitions. MD and Center inputs to plan received.	2/25 Center plans due	Agreement on competency health quantification	3/22/2005	TBD
Brokered Transfers of work between centers	Mission Directorates, with Center Directors	SOMD - M. Milsted (202) 358-4728 ESMD - P. Lovingood (202) 358-5179 ARMD - J. Henn (202) 358-4741 SMD - A. McNally (202) 358-3885	Discussed at January Leadership Council	3/1/2005 SMD retreat between GSFC and ARC	Impact on donor center and on efficient management of work	6/1/2005 (Center budget submission)	TBD
Pursue near term closures and/or consolidations	OIM with Mission Directorates	Al Johnson (202) 358-1834	ARMD list of proposed closures vetted w/ other MDs	Solicit lists from all MDs	Potential closing facilities needed by other programs	TBD	Dollar savings. Potential increase to uncovered FTE.
IRTT (Coordinate RPMA/NOMET efforts) - Institutional Realignment and Transformation Team	OIM with Mission Directorates, Center Directors	Al Johnson (202) 358-1834 Joan Salute (202) 358-0944	Team being formed. MD members needed. Brief all members on RPMA/NOMET	2/21-25 - IRTT review MD and Center proposals	Differing center perspectives	7/31/2005	Flexibility. Potential increase in reimbursable work.
Directed reassignments*	OIM, with Mission and Center Directors	Melissa Riesco (202) 358-1518	Team is being formed.	2/9 planning meeting	CMS updates. Union involvement. Congressional sensitivity.	8/31/2006	
Involuntary workforce realignment preparation*	OIM with Center HR Directors	Melissa Riesco (202) 358-1518 Leah Meisel (757)864-2953	Team is being formed.	2/9 planning meeting	Uncontrollable end state. Workforce mix. Congressional sensitivity.	8/6/2006	Elimination of an residual uncovered capacity by end of FY06.

6/9/2006

Appendix B

Executive bonuses in 2004			
Agency	Eligible Execs	Execs Getting Bonuses	Average Bonus
Agriculture	280	81.4%	\$15,861
AID	17	52.9%	\$8,889
Commerce	263	77.9%	\$12,299
Defense	1,049	43.4%	\$16,958
Education	60	67.8%	\$10,325
Energy	347	64.0%	\$8,863
EPA	264	50.4%	\$11,797
GSA	75	97.3%	\$12,705
HHS	307	70.2%	\$12,536
Homeland Security	204	46.6%	\$16,424
HUD	69	60.9%	\$8,092
Interior	219	30.1%	\$13,017
Justice	523	56.5%	\$11,858
Labor	141	89.4%	\$11,999
NASA	401	42.6%	\$17,483
NRC	150	62.0%	\$16,946
OMB	55	48.3%	\$10,100
OPM	42	69.0%	\$15,044
SBA	30	100.0%	\$9,518
SSA	133	63.2%	\$14,419
State	125	32.8%	\$11,037
Transportation	180	51.4%	\$10,790
Treasury	386	64.4%	\$15,607
VA	262	89.3%	\$16,287
All Others	266	56.4%	\$12,360
GOVERNMENTWIDE	5,848	58.2%	\$13,734

Appendix C

APRIL 2005	MARCH 2004
Acquisition and Contract Management	Acquisition and Contract Management *
Advanced Mission Analysis	Advanced Mission Analysis
Advanced Technical Training Design	Advanced Experimentation and Testing Technology
Astronomy and Astrophysics	Advanced In-Space Propulsion
Avionics	
Biology and Biogeochemistry of Ecosystems	Aerodynamics
Budgeting Management	Budgeting Management *
Climate Change and Variability	Business IT Systems
Control Systems, Guidance & Navigation	Business Management *
Cost Estimation and Analysis	Communications Networks and Engineering
Cryogenics Engineering	Computer Systems and Engineering
Earth Atmosphere	Design and Development Engineering
Electrical and Electronic Systems	Electrical and Electronics Systems
Electro-Mechanical Systems	Engineering and Science Support
Environmental Control and Life Support Systems	Financial Management *
Financial Management	Flight and Ground Data Systems
Flight and Ground Data Systems	Fundamental Human Factors Research
Habitability and Environmental Factors	Human Factors
Integration Engineering	Human Resources *
Intelligent/Adaptive Systems	Institutional Facilities Operations
Laser Technology	Institutional Facilities Planning
Materials Science and Engineering	Integration Engineering
Mission Analysis and Planning	Intelligent/Adaptive Systems
Mission Assurance	Legal *
Mission Execution	Mathematical Modeling and Analysis
Network Systems and Technology	Mission Analysis and Planning
Optical Systems	Mission Assurance
Planetary Science	Mission Execution
Power Systems	Nuclear Engineering
Program/Project Management	Program/Project Management
Propulsion Systems & Testing	Propulsion Systems and Testing
Quality Engineering & Assurance	Public Communications and Outreach *
Remote Sensing Technologies	Quality Engineering and Assurance
Risk Management	Safety Engineering and Assurance
Safety Engineering and Assurance	Systems Engineering
Simulation/Flight Research Systems	Test Engineering
Space Physics	
Structural Dynamics	
Systems Engineering	
Test Engineering	



Appendix D

INTERNATIONAL FEDERATION OF
PROFESSIONAL AND TECHNICAL ENGINEERS
AFL-CIO & CLC

NASA Council of IFPTE Locals

Comments on NASA management's Draft Workforce Strategy

(Dated 2/6/06; Delivered by Management on 2/7/06)

As required by the NASA Authorization Act of 2005

March 9, 2006

1. Overview

The draft workforce plan delivered to the NASA Council of IFPTE Locals on February 6th appears not to meet the requirements set forth in the 2006 NASA Authorization Act. However the following does not address that concern directly (that legalistic issue will be addressed by a separate letter from IFPTE International) but instead looks at the plan in hopes that our comments will be used to improve the plan.

The NASA Council feels that this plan leaves multiple of questions unanswered and contains compromises that may not be necessary. We hope the comments and questions below can be answered by the Administration so that Congress and the American people can better understand the vision that Administrator Griffin brings to our Agency.

We do not believe the Agency can move forward with this workforce strategy, which does not provide a clear overview of the existing skills of its workforce. Indeed, this workforce strategy illustrates a lack of understanding of the capabilities of the employees at the Agency. Since this document has been written, an attempt has been initiated to improve the CMS system in an effort to remedy this situation and the Union is looking forward to these changes. It remains unclear how the current draft strategy can have any validity value given that this precursor activity is as yet incomplete.

Three troubling philosophical issues run through this draft strategy plan:

- The misapplication of full-cost accounting has generated an artificial crisis that is driving an arbitrary unfocused downsizing of NASA technical civil service staff.
- The astonishing abandonment of a internal workforce system successful for decades consisting primarily of dedicated tenured permanent employees with absolute loyalty to the agency and long-term engagement in mission success for a supposedly cheaper short-term job-shop system that will generate little loyalty or interest in the long-term success of programs, limit employees experience to single projects, and undermine NASA's ability to compete with elite academic institutions for the best and brightest young talent.
- The reckless use of a flawed and incomplete competency management system that supports the current workforce planning with no solid link to actual technical skills.

The misapplication of "full-cost accounting" is the primary driver for the current workforce faux crisis and remains embodied in the *ad hoc* numbers of the Table on p. 9. Any thorough workforce strategy would have devoted considerable space to exactly how these numbers were derived rather than simply stating them as immutable facts. When NASA converted to full-cost, rather than simply accounting for the FTEs working on each program, program managers were simply given the salary funds to do with as they

pleased. Many managers took advantage of the apparent new found wealth in their program budgets to divert civil servant salaries to increase procurement and outsource program activities. Civil servants, unfairly shackled by run-away overhead costs resulting from poor center management of institutional costs, were made to appear artificially expensive. This fact then in turn drove programs to shed FTEs to reduce the institutional burden that was being shifted from Centers to Programs. However, shedding civil servant FTEs did not actually reduce overall agency costs because the center overhead charges that would have been assigned to the rejected FTE were merely redistributed over the remaining workforce at a given center. Full-cost accounting should merely have kept track of how NASA FTEs were being assigned to the various programs or institutional activities. It should not have been used to drive FTE assignment decisions as is made clear by the statement "These FTE projections are based on mission requirements and anticipated funding (p. 9)" and the emphasis is on the latter factor as illustrated by the awkward turn of phrase on p. 5 "when programs are resourced to require fewer personnel". Programs are given overall budgets but their personnel requirements should be driven by mission milestones and not predetermined salary limits. Program technical and administrative needs should drive the number of FTEs assigned to a program; FTEs should not be arbitrarily limited as in the Table to free up funds for other uses.

It seems that "full-cost" is invoked whenever an excuse is needed to kill something technical but self-motivated, full cost seems to say if we have a big program sanctioned with certain dollar and time constraints, employees' time can be charged to this program but they must only work on that program and not some other or do research for the future or do things which follow up on a technical idea that has not been officially sanctioned. Yet many times we are indeed called upon to support non-technical work that has no official support and this raises no red flag. Those things do not seem to bring down the "full cost wrath", yet they have no charge code that management expects us to use. In a (not too unusual) day, a supervisor may spent 3 hours with a high school student shadowing him, an employee may be asked to attend two safety meetings this week or to attend a telecom on how to deal with unruly employees, or to attend a Center Staff meeting. Employees are often sent Center Directives to review each with many, many pages or must take some "computer" training which lasts an hour or more. We have been encouraged to do proposals so that we have work in the future. Who pays for all this? Which program, which project? What is OK to do, what is not? Who pays for all the non-program tasks we are asked to do? Hours and hours of bureaucratic busy work is supported in secret under direct violation of the core principle of full-cost but following up on an original technical thought is a crime. So NASA's workforce strategy should seek to better define "full cost" as it is now working and "full cost" as envisioned in the future. The new "simplified full-cost" effort is promising but once again the current workforce document and its key numbers do not reflect this ongoing full-cost reform process.

HR tools available to the Agency give us some hope, yet give us concern. Of concern is the proposed wide use of "term employees" and other temporary employees. More than half the hires since 2004 have been terms. This is a dangerous trend that will do

irreversible harm to NASA's ability to compete in the future for its fair share of the absolutely smartest engineers and scientists. Tenure is good enough for Harvard, Yale, Princeton, Johns Hopkins, Cal Tech, Berkeley, Stanford etc... Furthermore, Boeing, Lockheed etc... will always be able to offer greater financial incentives. The scientists and engineers that NASA hopes to attract will choose these other options, if NASA becomes a mere soft-money temporary employment agency that pays civil-service wages. Using surveys performed prior to NASA's conversion to a philosophy of full-cost recovery to make claims that morale remains high and that NASA jobs remain as desirable is overtly misleading.

There should be hard rules defining when hiring of "term employees" is appropriate and permissible. Technical supervisors say that they hire terms, not because they desire a term, but because "perm hires" are simply not authorized. That is not a mission-driven "workforce" reason, but rather reflects an *ad hoc* anti-civil-servant philosophy against long-term commitment to allow for easier budgetary planning at an Agency level at the expense of productivity and technical excellence. For freshouts, this is less of a problem, as post-docs and internships are a way of life for some early in their careers. But for high-quality technical people of experience, they don't want short-term employment, they need stability in their lives . . . and the best and the brightest are looking for "tenure". If you only analyze responses from those you hire as terms, you will never learn the real affect of this flexibility. If you ask the current "perms" what they think of being converted to a term, then the real answer will be obvious. Furthermore, the term appointment flexibility granted the Agency through the NASA Flexibility Act was not intended to create a revolving door practice at NASA, which is where the Agency seems to be headed. Instead Congress intended that legislation to be the catalyst in retaining and recruiting talented personnel willing to make NASA their careers, versus the term appointments who come in one day, and are gone the next.

There is also the opposite situation where a "perm" offers more flexibility than a "term". Terms are hired to do a specific job and they cannot always, by law, be moved to something else that is more pressing. That is not the case for permanent employees, they are not constrained, management has the flexibility to move them to any work that the Agency needs. So again, terms play a role but a very limited role, when the best interest of NASA is at heart. The workforce strategy should very carefully define when a "term" is appropriate.

NASA is only in the beginning phase of setting up a Competency Management System to support workforce planning despite the fact that they have been at it for more than 3 years and have spent considerable money on it. The workforce strategy draft document clearly shows that the only "competencies" considered were those of the employee's current position, not the employee's full capabilities. Indeed even these position competencies have been further trimmed down to just one primary position competency. This will clearly create an absolutely false representation of the true capabilities of the present workforce, and make "capitalizing on the potential of this workforce" impossible. Although focusing on the primary competency "makes workforce forecasting and data

analysis more manageable (p. 12)", it certainly makes it less accurate and less informative.

NASA has yet to validate the CMS data base that describes actual employee skills although they have been talking about this for years (perhaps if the RIF preparation funds had been used to implement this task, HR would be further along). This is the key database that would theoretically help guide decision making as the Agency seeks to re-deploy intelligently. The CMS database that has been used to generate the draft strategy is associated with "positions" not employees and thus does not actually contain information about NASA workforce. In addition, its "dictionary" employs ridiculously vague terms like "program management". A program manager in Astrophysics requires very different technical skills and knowledge than one in Astrobiology, so it is simply meaningless to say that such skills will need to trend up or down. HR is applying a shoe factory model to NASA workforce planning; its plans assume that all program managers are interchangeable within a content-free management world. This is dangerous and is a key manifestation of NASA's culture problem identified by the Columbia Accident Investigation Board as a primary cause of the disaster. In an Agency that needs to maintain a complex technical and scientific skills mix, the simple-minded human capital tools that NASA has applied to generate the draft strategy are inadequate and the results cannot be trusted.

2. NASA's (un-auditable) Budget

With the considerable, un-auditable budgetary issues of the Agency over the past 5 years, and with the concerted current effort by the CFO of the Agency to balance the budget and audit the books, it is critical that the financial picture be clarified before a workforce reshaping driven to recoup funds is implemented, especially such drastic measures as a Reduction in Force (RIF). The current financial justification for the downsizing NASA by about 1,000 civil service jobs is premature and all of the associated repertoire of possible hostile HR actions remain ill-advised given the effect of such actions on employee morale and Agency effectiveness. A careful cost-benefit analysis of the effects of using blunt instruments such as RIFs must first be performed with a credible level of accuracy.

Under "Change to Full Cost Management" (p. 5) it is stated, "When programs are resourced to require fewer personnel, the mission directorates cannot immediately reduce personnel costs. They must continue to fund employees until redeployment or reduction can be effected." While Civil Service staff cannot be quickly reduced, they are in fact quickly re-deployable. A CMS system that is more detailed, involving competencies beyond the primary one, would be an effective tool for redeploying the workforce.

There is no shortage of work that needs to be done to support the VSE and most of the currently "uncovered" workforce could be directly redeployed to support NASA's current missions if there is a will to do so. If anything, a dramatic wave of hirings should be contemplated in the current strategy to bring in the next generation needed to get this ambitious job done, especially given that a huge portion of the civil-service workforce

will retire over the next decade. The primary rationale for the NASA Flexibility Act given by then-Administrator O'Keefe in his congressional testimony was to keep old timers on board as mentors, while expediting the hiring of young engineers and scientists. In direct opposition to that public argument, NASA has engaged over the last two years in budgetary machinations, a series of broad buyouts, and RIF-mongering that was used to drive 950 employees out, many of whom were on the critical needs list of the Flexibility Workforce Plan or had other key skills needed for to support the VSE. We are now facing the CEV era with fewer Apollo era experts and support staff just as we critically need their knowledge and skills. This is not a good thing unless simple downsizing targets are the goal.

3. Looking Forward and the Needs of NASA's Missions

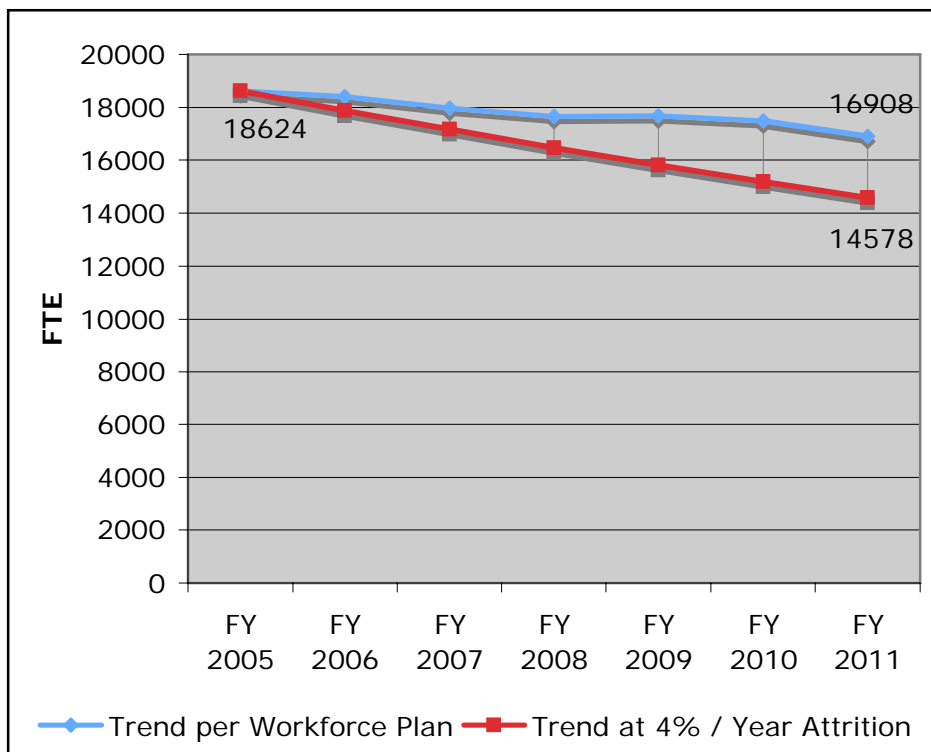
As required by the Authorization Act of 2005, the draft plan must include (specific) categories and numbers of employees to be reduced or increased in the coming years including justifications. While this plan does identify specific competencies (e.g., 10-50, p. 17) to be reduced, it is not clear whether these are reductions are per competency or total, or at which Centers and within which organizations these reductions are expected. Most importantly, the plan fails to make a connection between the competency targets listed and the actual categories and numbers of employees affected or to provide the required mission-based rationale. Indeed, the strategy confesses that although it is monitoring and planning based on competencies, these numbers do not correspond to categories and numbers of actual employees (p. 13). Thus, a pool of 100 employees who are 95% covered is indistinguishable from 5 fully uncovered employees yet it is obvious that for any real workforce reshaping these two scenarios are quite different and require different approaches. No solution to this glaring flaw in the CMS approach to workforce reshaping is provided but no intelligent planning can occur unless this problem is solved.

In addition, the plan seems to contain significant contradictions in identifying needed and uncovered competencies. For example, Section 3-C (p. 15), "systems engineering and integration engineering" is the second category identified under "Increased Need Through FY 2009," and is estimated to increase 100-150 FTE's. However, the previous section (Section 3-B, p. 14, bottom) states, "the principal competencies associated with the current uncovered FTEs include the following: ... various engineering of systems competencies". Perhaps the document should explain how "systems engineering" should be differentiated from "engineering of systems"? Are we to RIF 100 to 150 "engineers of systems" so that we can hire 100 to 150 "systems engineers"?

Also, is the Agency really going to hire up to 600 new accounting/finance/business people above and beyond the NSSC (p. 16) while it cuts Science projects Aeronautics R&D, and its science and engineering staff? Do the downward overall FTEs trends proposed on p. 9 include these 600 new bean-counting positions? What analysis supports the contention that NASA's accounting problems have been due to a shortage of manpower as opposed to lousy SAP software and needlessly arcane and inefficient accounting practices (e.g. head taxes and square footage calculations for G&A as opposed to simple percentage of direct costs like every University in the country)?

At the beginning of Section 2 (p. 9) we are presented with a Table containing the bulk of the quantitative information in the entire document. The caption calls it a "trend", but the workforce document under review is supposed to be a "strategy" that states clearly the Administration's goals over the coming years. Do the numbers in this Table reflect the outcome of buyouts and retirement and RIFs to meet arbitrary budget-driven downsizing targets or do they reflect appropriate workforce estimates based on technical project managers' analyses of what manpower is needed to support high-quality, on-time deliverables for the VSE and NASA's other missions? No specifics are provided as to how these numbers were obtained from the data developed by "all levels" of management as part of the creation of this document. Can NASA provide the source data (and acquisition and analysis methods) from which these numbers were calculated? We cannot fully comment on this Table without such information.

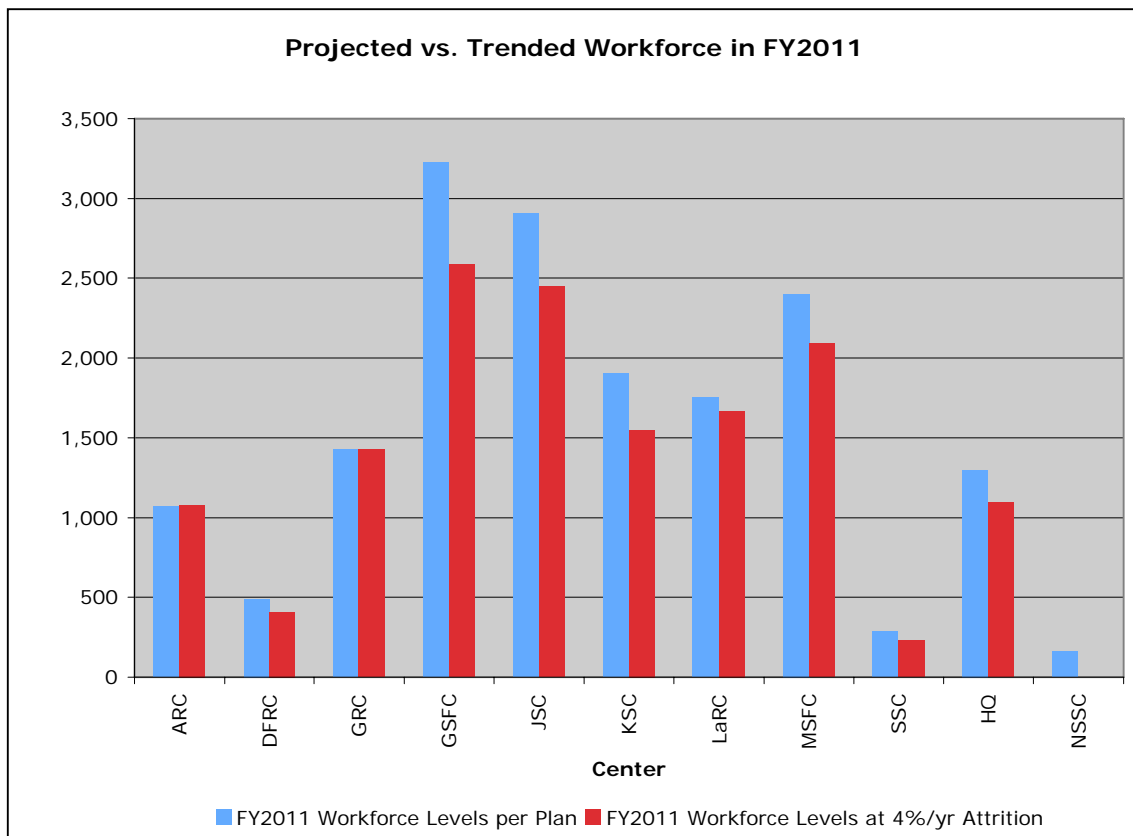
Section 5-B of the Workforce Strategy states that the Agency's natural attrition rate is about 4%. Analyzing the Table in Section 2, and starting with 18,624 employees in FY2005 and applying a straight 4%-per-year attrition rate yields the following:



The trend stated in the Workforce Strategy calls for a reduction of 1,875 FTE from FY 2005 to FY2011. However, as shown in the chart above, with a 4% natural attrition, the workforce will be reduced by about 4,046. Thus, given the NASA's natural attrition rate, the Agency will have to hire 2,171 FTE over the next 5 years to overcome natural attrition and meet the Agency's overall workforce strategy goals as well as achieve the new skills mix needed to support the VSE. Where is that hiring plan? It is also quite

likely that the 4% natural attrition rate over the next 6 years is a conservative estimate based on the fact that the retirement eligible workforce is growing (see Section 1). Given the magnitude of these trends, any reasonable NASA workforce strategy must contain a more detailed analysis and estimate of natural attrition and of expected retirements for the NASA workforce. Much greater emphasis should be placed on training, mentoring (and retention of senior mentors who would otherwise retire), and hiring of new needed skills than on workforce reductions.

In analyzing the trends as they are projected to FY2011, it is apparent that each Center individually will also be at the expected levels or below due simply to this 4% attrition rate, as illustrated in the chart below.



Is it expected that the Agency will hire new employees at a rate high enough to account for attrition in order to meet the staffing levels as stated in the trend chart? What percentage of these new hires is expected to be Term appointments? How many FTE's are expected to be hired under the various authorities (SES, GS, NEX, etc.)?

In the second paragraph of Section 1-C (p. 7, bottom), we read, "All levels of management are involved", yet this is immediately followed by a list, "(Agency, Mission Directorates, Program Managers, Center management)", which refers only to upper management. From our own experience at the Centers, the immediate managers of the

workforce and the hands-on human resource specialists have not been adequately involved. How were inputs from the division chiefs, branch chiefs, project managers and group leads included in the workforce planning activity? These are the people most in touch with actual manpower requirements for the various activities.

A couple paragraphs later we read that, "Civil service labor supports five principal work areas. ... Each of the five components is spread across multiple Centers, though they are not distributed equally among Centers." How are these five components distributed across the Centers and what process created the disparate ratios?

The first paragraph of the Introduction (p. 2) states that the "strategy is based on objectives that contribute to accomplishing the President's Vision for Space Exploration (VSE), while also recognizing the Agency's financial responsibilities and limitations" without any mention of NASA's science or aeronautics missions, or NASA's facilities and capabilities that are and could be useful to other agencies and industries. While the VSE is currently the major driver of new workforce needs, how are NASA's other missions and functions included in the objectives?

The strategy claims that it "is predicated on the Agency's commitment to building a stronger, healthier NASA, one that fully utilizes - and even expands - the capabilities of its Centers and its current workforce", yet the Table on page 9 shows consistent down trends in FTEs at all eight of the large Centers. Only the two smallest Centers, DFRC and SSC, are shown with stable workforces into the next decade. Why? What is the justification for the phrase "and even expands"?

One of the five main contributors to "uncovered capacity" is stated to be "Restructuring of the science program and subsequent redirection of funds to higher priority missions in science." Elsewhere, this document says of the science program that, "There will be evolution in the schedule and mix of programs and projects, but the work and competencies needed remain the same overall." We don't believe "the work remains the same", the work has changed, contributing to the number of "uncovereds", e.g. scores of life, micro-gravity and biotech scientists were left uncovered. To be covered, they were moved out of science to engineering jobs. Many "competencies" such as engineering and support are relevant regardless of the science supported, and are applicable to all of NASA's missions. So there really are changes in the science program that result in restructuring the workforce, are there others?

4. The Competency Management System (CMS)

Under the heading of "MAXIMIZE USE OF NASA'S CURRENT HUMAN CAPITAL CAPABILITIES", it is stated that "Throughout the reshaping process, NASA is committed to capitalizing on the potential of this workforce by using existing skills - expanding, rebalancing, and realigning them where necessary", however the remainder of the document shows that, to accomplish this, NASA is relying on a computerized "competency management system". The document clearly shows that the only "competencies" considered are those of the employee's current position, not the

employee's full capabilities. Indeed even the position competencies have been trimmed down to just one primary competency. This will clearly create an absolutely false representation of the true capabilities of the present workforce, and make "capitalizing on the potential of this workforce" impossible. We know from direct experience and from listening to both workers and managers, that the categories in the "Competency Management System" (CMS) are vaguely defined, vaguely delineated, and have many gaps in coverage. This system should have been tested, then fixed, then fully validated before any realistic workforce planning was attempted. It is admitted that some of our employees are working in areas of their weakest competencies and they have stronger competencies that are not recognized because they are not the "primary" one. How will management ensure that an employee's personal competencies are taken into account, when matching the skills of the workers with the needs of NASA's missions? It is stated that, "the designation of a primary competency makes workforce forecasting and data analysis more manageable" (Section 3-A, p. 12). However, it does not make the forecasting better, but worse. By implementing the CMS as a computer database, why does the Agency not utilize the power of its multiple databases to take into account all position competencies when determining mission needs and all personal competencies when identifying the workforce capabilities? An immediate impact of using only primary competencies is failure to deal with systems or other integration positions, in which the products of more than one discipline must be coordinated. These are, in fact, the categories that can be expected to have the greatest need as we move into designing and implementing a new space transportation system. It also will lead to failure to account not just for all the skills in the workforce, but also for all the skills currently being used in the workforce. The workforce strategy is fraught with serious errors caused, in large part, by solely relying upon "primary" competency.

The use by the Agency of CMS for buyouts was the only experience that NASA has with this system and no analysis was done to see how well it actually worked. Indeed, because of the discrepancy between the critical needs and competencies nomenclature, it appears that critical needs were indeed bought out. Although the system shows promise, continual improvements will be necessary before CMS can be used for *bone fide* planning. How does management intend to make the Competency Management System an accurate tool for workforce planning and how does management intend to use it in determining what new positions are needed and what old ones should be abolished?

5. Employee Performance Communications System and Position Descriptions

There have been recent extensive changes in the Agency's Employee Performance Communications System. In addition, in preparation for a RIF, there has been greatly increased effort to revise and update Position Descriptions to bring them up to date and have them accurately reflect the work being performed at the Centers. HR organizations have repeatedly stated that this is an effort to have the records accurate in order to perform a RIF that will withstand scrutiny if a RIF becomes necessary. NASA has started to maintain CLs (Competitive Levels) so that a RIF can be carried out yet there is no mention of this in the strategy. Indeed, over the last year, extensive RIF planning has been a dominant factor in HR activities yet this is downplayed in the official strategy.

Position descriptions, the official documents identifying the needs of the agencies, have long languished at the Centers and are now, in a flurry of activity, being updated in a mad rush. How are these updates to position descriptions being incorporated into the CMS system so that decisions made based upon CMS yield consistent results with the position descriptions?

6. Hiring and Maintaining a Workforce of the Best and Brightest

It is encouraging that this plan includes tracking the employee's ratings of NASA as presented in the report, "The Best Places to Work in the Federal Government." On the face of it, this information appears to be an indicator of the state of the Agency and an important factor when a scientist or engineer considers taking positions in the federal government. However, the workforce strategy states, after enthusiastically highlighting the positive elements in this report (p. 28) that "Some of the NASA data shows declines in satisfaction levels, much of which is reasonably attributable to uncertainty created by the initial 2004 announcement of the Vision for Space Exploration and by the first transformation activities."

On the contrary, it is more reasonable that the VSE should have generated even more satisfaction and enthusiasm. What data shows these declines? How is the drastic decline in perception at two Centers (NASA Headquarters and NASA Ames, declines of over 8.5% and 10%, respectively) explained by this claim? It is clear that the "health of the Center" correlates closely with the rankings in this survey (JSC: 5th, KSC: 7th, GSFC: 11th, SSC: 33rd, GRC: 47th, LRC: 76th, ARC: 106th, DFRC: 121st, HQ: 143rd.) It is likely that the threat of a RIF is a significant contributing factor to the low morale at these low-ranking Centers. What is the Agency strategy for dealing with retaining its best employees during the current round of buyouts, looming RIF, and even furlough threats that NASA employees have been subjected to over the last year and a half at the poor Centers? Has NASA HR seriously studied the impact of these falling rankings on hiring the best and brightest scientists and engineers from academia and industry? How is the refusal to take RIF off the table (p. 23) consistent with the recent emphasis on Ten Healthy Centers? There is no way a RIF will lead to anything resembling health at any targeted center as the bitterness and associated productivity losses (and litigation) will persist for many years; this is common knowledge among senior HR professionals. Given the attrition analysis provided above, it is truly inexplicable as well as unwise for NASA to even be talking about RIFs.

The "Best Places to Work" report states, under the heading of "Top Movers", that:

Six of the 30 largest agencies experienced double digit increases since 2003. Two leaders of this pack are the Department of State and the Agency for International Development, with increases of 14.7 percent and 13.0 percent respectively. In both cases, the sharp upswing in employee engagement was assisted by large gains in the Training and Development workplace dimension, which increased by 14 percent at AID and 25 percent at State in just two years.

This is of great significance, when the total amount of money spent in FY05 for training at Ames Research Center (the Center that declined over 10% in rating) totaled less than \$300K spent on technical academic courses (less than \$300 per employee, or \$1,000 per employee if that total expenditure was focused exclusively on the uncovered workforce). The Ames Local has reported hearing, from top management, that investment such as funding advanced degrees are no longer being considered and that NO money was set aside for training of uncovered employees in transition. This Local raised this serious concern in October of 2005 and continues to raise this concern with their local management and management at HQ. This significant lack of funding for educational and other training investment seems counter-intuitive for an Agency and a Center intending retooling, retraining, and retaining the best and brightest it already has and at odds with the multiple assertions about "aggressive retraining" being a core feature of the strategy.

It is encouraging that the plan states a commitment to "retrain employees whose competencies are in areas of reduced need" and is "devoting funding to support retraining to meet these [mission] needs." However, with less than a year until the Agency can execute a planned RIF, the time for retraining is at hand and quickly passing, yet little tangible action has been taken. How much money has the Agency spent in previous fiscal years on technical coursework in order to retrain employees, particularly those employees considered uncovered and lacking specific experience and skills that are necessary to meet NASA's mission needs in the future? How much money does the Agency intend to spend on retraining employees in FY06/07, particularly for these uncovered employees? Are the employees being trained immune from a RIF? It makes sense to the NCIL to train employees in areas of need and then keep them.

The "Strategy for Leadership and Career Development", as presented on p. 29 of the workforce plan presents an encouraging proposal for realigning the employees of the Agency using a variety of tools. It is stated that NASA will be adopting this plan "during the current fiscal year". With around 7 months to the fiscal year remaining, and a RIF possible in the near future, when will this plan be put into effect? What is the budget of this plan, including a breakdown by Center? What percentage will go to the uncovered employees? What percentage will go to each of the elements listed on pp. 29-30? What percentage will go to scientific, engineering, and other technical areas of development? What percentage will go towards non-management employees?

Later, under the heading of "Targeted Retention Tools" (p. 31), authorities given to NASA under the NASA Flexibility Act and other retention incentives are identified. How have these tools been used in the past fiscal years? Particularly, how have these tools been used to retain scientists and engineers in the technical workforce? Please provide specific numbers (number and nature of IPA assignments to other agencies, money spent on qualifications pay, relocations incentives, critical position pay authority). Please decompose expenditures by Center, by organization, and the amount of the expenditure for the scientific and engineering workforce versus program/project/line management and employees in administrative roles.

Under the heading of "Knowledge Management", the plan states that, "Most Centers have active mentoring programs." Mentorship is a critical tool not only to retain knowledge currently residing in the workforce but also for retraining employees in the specialized fields and in the unique experience of the NASA workforce. What is the nature of the mentoring programs at the Centers that have them? How are mentorships arranged? Are mentorships being considered now or in the future for retraining uncovered employees in skills they are currently lacking?

7. Leveraging the Existing Workforce

Under "Aeronautics" (p. 10) it is stated, "Requirements for human factors research and engineering, avionics, network systems and technology, and skilled mechanics and technicians will trend downward." There seems to be no recognition of the fact that several of these fields (along with a lengthy list of other fields of scientific research and development maintained at NASA's Centers such as propulsion research, materials sciences, life sciences, astrophysics, etc.) will have an increased contribution in efforts contributing to the Exploration Vision. Is it implicit here that there should be no transfer of workforce among the mission directorates? This is highly inefficient, and contrary to the very concept of workforce strategy. A key goal of this effort is to avoid laying off and then soon hiring the same skills. This document has apparently missed accomplishing this goal in regard to transfers of skills from one mission directorate to another. The workforce strategy should more specifically describe how to leverage the skilled employees who work currently primarily for the Aeronautics and Science mission directorates to support the Exploration Vision.

It has been stated that there will be significant increases in the number of positions in certain competencies and reductions in others. However, it has not become apparent that those positions requiring those competencies have been or will be advertised to the workforce so that employees currently uncovered can apply and compete for these new positions. When will HR announce these new positions? How long will they be limited to NASA CS applicants and will the work be mobile or are employees expected to move to other Centers in order to perform these roles?

Under "Science" (p. 11, Section 2) the sole problem identified is the need to hire new personnel to replace those who retire. This would be welcome news but there is more to this than that; at more than one Center, scientists and scientific support personnel have been ordered off of scientific projects in a wholesale fashion and assigned to every conceivable support function. Will remaining employees be reassigned to scientific projects as older scientists and technicians retire? Are these unfunded science directorate employees already categorized as nonscientific personnel?

Stated in Section 3-C (p. 16), "Fabrication work previously done by in-house technicians is now available outside of NASA at better terms for the Government." Upon what financial basis is this statement true, particularly for the one-of nature of most of NASA's fabrication needs? Can management provide a specific cost-benefit analysis of fabrication inside versus outside of NASA to support this bold assertion that is being used to argue

for reductions in the competencies? The engineering and development activities, including fabrication, manufacture, and maintenance of specialized models, instruments, and other components (often times flight hardware) requires specialized skills, experience, and a strong understanding of the unique nature of NASA requirements. Many corporate contractors have been able to provide services in a cost-effective and productive manner, but NASA has certainly had its experiences with cost increases, schedule slips, manufacturing flaws, and other significant problems that affect the ability to be an effective agency. The bankruptcy of the corporation in charge of the SOFIA main cavity door, and the subsequent manufacture by the civil service and in-house contractor support staff is a specific example of the importance of maintaining an in-house capability and leveraging that capability in cases where the mission is at risk. Additionally, an in-house capability is critical to provide smart buyer know-how, quality and safety oversight, construction planning and cost analysis, and other activities that require deep knowledge of the technical work needed to be performed to build the hardware critical to meeting NASA's mission needs.

8. Concluding remarks

With the announcement of the Vision of Space Exploration and the appointment of Dr. Griffin as Administrator, it is apparent to the Nation that there has been a significant change to the portfolio of goals of the Agency that will impact its workforce needs. However, Administrator Griffin properly recognized the technical missteps of his predecessor and has worked diligently to reverse the O'Keefe-Steidle outsource-everything-spaceship plan with a more intelligent and cost-effective primarily in-house ESAS plan. Unfortunately, only recently have the concepts of work package transfers, 10 healthy centers, and full-cost simplification come to the fore to allow NASA to begin the process of reversing the flawed Jennings Human Capital Management plan (2/14/05) as well. We urge a wholesale and overt rejection of the failed workforce policies of Dr. Griffin's predecessor, including the ludicrous idea that NASA needs to RIF (or even to threaten to RIF) its technical employees while it ratchets up its technical needs. One should not over-estimate the time necessary to train or re-train enthusiastic and willing employees of the caliber that NASA currently employs. To many of our people, Space is almost a religion and their dedication says that we owe it to them and to the taxpayers to give a little extra to see that all of our employees are properly valued and that we do not betray our people because they are old or because we have a short-term budgetary shortfall or because management erred in the past. The principles of "One NASA" and of "10 Healthy Centers" are certainly consistent with IFPTE's ideals and we hope these slogans become the new workforce reality. To reach that desirable reality, NASA however needs a more thoughtful and thorough workforce strategy that recognizes that we need not destroy to create.



Appendix E

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Chris Knight
Negotiations VP

Duane Carbon
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Safety VP

John R Lehman
Secretary

Dave Lesberg
Acting Treasurer

Suzanne Meyer
Chief Steward

Knight & Herrera
Deputy Stewards

Andy Goforth
John Eilers
Trustees

Paul K Davis
Acting Partnership
Council Co-Chair

March 28, 2006

General Michael Wholley Esq.
Office of the General Counsel
NASA Headquarters
300 E St. SW
Washington, DC 20546-0001

Dear General Wholley:

Section 101(f) of Public Law 109-155, the NASA Authorization Act of 2005 (hereafter referred to as the Act), requires that NASA “develop a human capital strategy to ensure that NASA has a workforce of the appropriate size and with the appropriate skills to carry out the programs of NASA.” The Act also requires that this workforce strategy “cover the period through fiscal year 2011” and “describe, at a minimum—“certain specific content (see below). **NASA’s draft strategy submitted to its Unions on February 6th 2006 for review objectively failed to include much of the required content.** Therefore, submission to the Unions of this inadequate draft failed to meet the Act’s clear minimum requirement of proper notification and consultation of a *bone fide* workforce strategy to its Unions for a 30-day review. The International Federation of Professional and Technical Engineers (IFPTE) nonetheless submitted its comments in good faith in a timely manner while also pointing out that concerns about the legal sufficiency of the draft would be sent under separate cover. **This letter asks that you thoroughly review the final workforce strategy document due to Congress by April 9th with the particular intention of ensuring that it fully comply with the minimum requirements of the NASA Authorization Act of 2005.**

Below is greater detail of how the February 6th draft failed to meet the minimum congressionally mandated content.

Requirement 1: *any categories of employees NASA intends to increase (or reduce), the expected size and timing of those reductions, the methods NASA intends to use to recruit the additional employees (or to make the reductions), and the reasons NASA needs (or no longer needs) those employees.*

While the draft strategy makes repeatedly vague statements of “competencies” facing downward trends or upward trends in Sections 2 and 3, it simply does not provide the information required by paragraphs A and B of Section 101(f). It does not provide all of the categories, numbers, and timing of future reductions or increments of employees as required by law. Nor does it provide anything more than cursory references to any “reasons NASA no longer needs those employees”. To meet the requirements of paragraphs A and B, the draft must provide a Table (or equivalent) of all planned reductions and increments of actual employees (not competencies) in fiscal years 2007 through 2011, including the timing, methods, and rationale for each of these increments/decrements as clearly stated in the Act. Although the Table in Section 2 provides crude overall target numbers of employees at each Center over the FY005 to FY11 timeframe, the granularity of the information is clearly less than that mandated by the Act and no direct link is made between these numbers and any of the workforce reshaping activities described in the draft document.

Requirement 2: *the steps NASA will use to retain needed employees*

The draft document provides an enumeration of a set of tools, including retention bonuses and re-training, but it fails to address how these tools will be translated into concrete “steps” by failing to mention that little or no funds have been allocated for using these tools.

As far as retention bonuses are concerned, according to Headquarters Human Resources only \$190,526 was spent on retaining technical employees in all of 2005. Meanwhile, \$72,254 was spent to retain only 3 non-



technical employees. This demonstrates NASA's feeble effort to use its previously accorded flexibilities specifically designed to provide retention bonuses in order to maintain its core technical workforce. It also suggests that NASA management may be sidestepping the Workforce Flexibility Act of 2004 by using more than 25% of its bonus authority to provide lucrative rewards to a few managers (as opposed to maintaining its technical skills set as intended by Congress).

As far as the re-training budget is concerned, in response to questions in a telecom between IFPTE and NASA Headquarters management on February 15th, Human Resources responded that they had performed "no assessment of the retraining budget" and that there was "no agency-wide figure or estimate of this". This shows that there was no effort made in any of the HQ budget planning to include the needed funds to support the document's assertion that the "key focus will be on aggressive retraining (p. 33)." As such, the document failed to meet above requirement to provide the actual concrete "steps [not simply the potential tools] NASA will use to retain needed employees." Furthermore, the failure to make agency-wide budgetary plans to support this proposed training suggests that the repeated references to aggressive training are disingenuous.

Requirement 3: the budget assumptions of the strategy, which for fiscal years 2007 and 2008 shall be consistent with the authorizations provided in title II of this Act, and any expected additional costs or savings from the strategy by fiscal year.

Section 2 of the draft workforce strategy states that "The President's FY 2007 budget submission reflects an overall downward full-time equivalent (FTE) trend from now through FY 2011. These FTE projections are based on mission requirements and anticipated funding." The decision to use the President's fiscal year 2007 budget submission (or the vague term "anticipated funding") to derive NASA's projected FTE trends directly violates the Congressional mandate to use the Act's budgetary guidance for FY07 and FY08, which is considerably higher and would clearly accommodate a larger workforce.

The draft goes on simply to assert in Section 3B that "NASA has approximately 1,000 uncovered FTEs throughout most of the five-year budget horizon" but there is no clear linkage made between this number and any meaningful assessment of mission needs, or budgetary constraints, or list of employees or positions, or the Table in Section 2, or even competencies. On p. 14, the draft asserts that two of the reasons for the uncovered FTEs are the "reduction of funding for the aeronautics program" and the "restructuring of the science program", neither of which is consistent with the Authorization Act of 2005. These statements overtly reject the budgetary assumptions for FY07 and FY08 of the growing Aeronautics and Science budgets prescribed in the Act and instead assume the proposed decreases to Aeronautics and Science funding in the President's FY07 budget proposal, not likely fully accepted by Congress.

The actual number of uncovered employees is arbitrary and has been fluctuating chaotically over the past two years. NASA's proposed workforce strategy of tracking and minimizing "uncovered capacity" is thus flawed at its root. It is also inconsistent with the Act because rather than providing transparency in workforce planning as intended by Congress, it focuses instead on managing an arbitrary number calculated behind closed doors, using secret subjective methods, unrelated to the actual technical skills needed to support either the Vision or the Appropriations and Authorization guidance provided by Congress. The fact that an ill-defined notion of "uncovered capacity" is the centerpiece of NASA's current workforce planning is contrary to the specific intent of section 101(f) of the Act, which requires management to provide up-front a transparent, objective, and concrete proposal of how it intends to reshape its workforce. Over the last two years, NASA's "critical needs" reported to Congress have also changed wildly; competencies deemed critical in the initial Workforce Plan of 2004 (i.e. after the announced Vision for Space Exploration) are now deemed uncovered and vice versa. It is also troubling that employees with primary competencies on the critical needs list have been offered buy-outs demonstrating that NASA has been reporting to Congress one set of priorities and yet acting based on another. The fact that NASA management has repeatedly provided Congress with workforce planning documents that management has then ignored reveals a troubling pattern of behavior that reflects inadequate respect for Congress' legitimate right and need to get thoughtful and complete responses to its workforce queries.



INTERNATIONAL FEDERATION OF PROFESSIONAL AND TECHNICAL ENGINEERS

LOCAL 30

AMES FEDERAL EMPLOYEE UNION

Representing over 1,100 Federal Employees at NASA Ames Research Center

In conclusion, the draft workforce strategy simply sets arbitrary goals for workforce downsizing and does not provide any intelligible link between the stated trends and programmatic requirements, the Vision for Space Exploration, or NASA's authorized budget. The Act requires that NASA provide a straightforward workforce strategy with the specific content based on the budgetary assumptions of the Act. The above provides evidence that the February 6th draft workforce strategy document fails in a number of ways to comply with the requirements of the Act. We therefore request that you investigate this concern and take appropriate action to make sure that the final document submitted to Congress is in full compliance with the law. In closing, NASA's Office of Human Capital Management is spending millions of taxpayer dollars on workforce planning; it would seem that the deliverables generated by such funds should meet the absolute highest possible standards and, at the very least, meet (or exceed) the customer's (i.e., Congress') clearly stated specifications.

Sincerely,

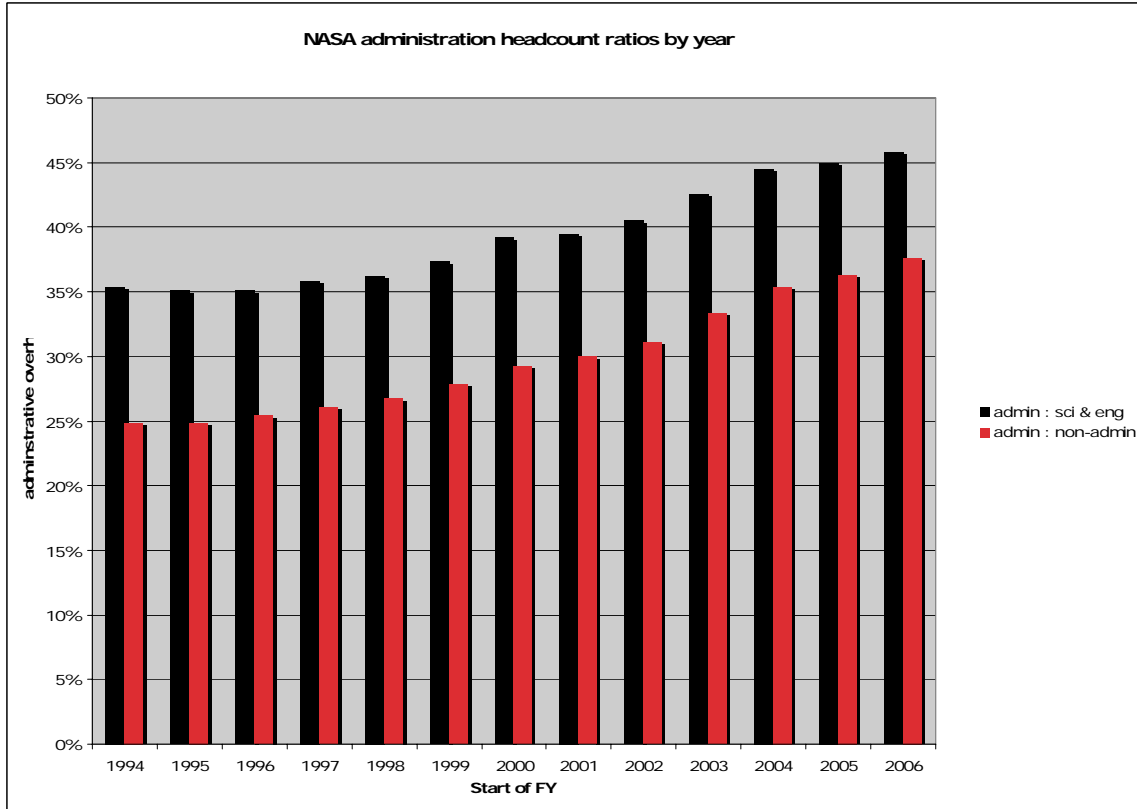
Paul Davis
President, IFPTE local 30
Vice President, NASA Council of IFPTE locals

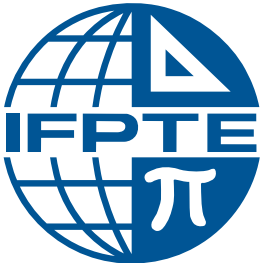
Co-signers:
Lee Stone, VP for Legislative Affairs IFPTE local 30
Chris Knight, VP for Negotiations IFPTE local 30
Dora Herrera, VP for Safety IPFTE local 30
Jim Eilers, Trustee IFPTE local 30
John Lehman, Secretary IFPTE local 30

Cc:
Dr. Michael Griffin, NASA Administrator
Ms. Toni Dawsey, NASA Chief Human Capital Officer
Mr. Robert Cobb, NASA Inspector General

Appendix F

Ratio of Administrative to S&E or to total non-Administrative positions





Appendix G

INTERNATIONAL FEDERATION OF PROFESSIONAL & TECHNICAL ENGINEERS AFL-CIO & CLC

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Allan Yamaguchi
NORTHWESTERN

May 11, 2006

Hon. John H. Marburger, III
Director
Office of Science & Technology Policy
Executive Office of the President
Washington, DC 20502

Dear Dr. Marburger:

Thank you for your reply dated 4/12/06 to my letter dated 1/13/06 to President Bush expressing IFPTE's concern about the serious budgetary choices facing NASA prior to the announcement of the FY07 budget. Regrettably, it would seem that the very choice that we advised against (i.e., The Office of Management and Budget's decision to increase both Shuttle and Exploration activities to full throttle with little or no increase in NASA's top line) was indeed made, triggering devastating cuts to NASA's science and technology programs even while retreating to uninspired, backward-looking designs for the next generation of spacecraft. IFPTE finds the simultaneous abandonment both of NASA's traditional missions and of the bold revolutionary spirit of the President's Vision for Space Exploration (VSE) deeply troubling. Recent broad-based push-back makes it clear that our concerns are shared by the National Academies, academia, professional societies, and even key private-sector stakeholders.

As your letter points out, the proposed FY07 budget increases Shuttle funding by \$2.6 billion and increases Exploration funding by 30%, yet the overall NASA budget increases by a mere 3.2% (which is not even adjusted for inflation). This is a formula for disaster. When President Bush proposed the VSE, his budget charts showed that the required funds would be recouped by the retirement of the Shuttle and the completion of International Space Station (ISS) assembly activities, leaving Aeronautics and Science whole throughout this transition and deferring full-scale Exploration activities until Shuttle retirement. This was the explicit promise of pay-as-you-go. Unfortunately however the FY07 budget violates that promise and starts the Agency down a dangerous path of cannibalism as Shuttle/ISS and Exploration eat their way through the rest of the Agency's budget. This is an unwise and unwarranted plan that is unsustainable, as future funding budgetary shortfalls for Shuttle/ISS and Constellation will require even more harmful cuts in Aeronautics and Science in FY08 and beyond. Perhaps even more importantly, the mad rush to initiate contracts for the new Crew Exploration Vehicle (CEV) is reminiscent of the same schedule-driven management culture identified by the Columbia Accident Investigation Board (CAIB) as a primary cause of the disaster. Seeing things in hindsight is not good enough; NASA must

learn to identify recidivist weaknesses in its management processes in real time, lest the nation will needlessly face tragedy again.

As the President's Chief advisor for Science and Technology issues, you must be concerned by the following facts:

1. NASA's Research and Technology programs have been decimated by decreases of a quarter to a third.
 - a. The Aeronautics Research Mission Directorate is slated to decrease by 31.5% over three years (24.7% over two years) from \$1,057⁽¹⁾ million in actual expenditures in FY04 and \$962^(2,3) million in FY05 to the \$724⁽²⁾ million proposed in FY07.
 - b. The Exploration Systems Research and Technology program is slated to decrease by 28.1% from \$898.9⁽⁴⁾ million in the final FY05 Operating Plan to the \$646.1⁽⁴⁾ million proposed in FY07.
2. NASA's Life and Microgravity Science programs have been all but abolished, leaving even a completed ISS with little purpose or scientific return on investment and undermining the VSE's promise to send humans safely back to the moon and on to Mars.
 - a. The now-abolished Office of Biological and Physical Research, which oversaw Life and Microgravity Science, had \$924.6⁽²⁾ million in actual expenditures in FY05, but this effort is slated to decrease by at least 70% to \$274.6⁽⁵⁾ million within the proposed FY07 budget for the Human Systems Research and Technologies program.
 - b. The set aside for Life and Microgravity Science mandated by the NASA Authorization Act of 2005 to maintain these capabilities within the Agency has not been adequately funded.
3. NASA's Space/Earth Science budget has been significantly reduced.
 - a. NASA's Science Mission Directorate budget decreased by 8.5% from \$5,824⁽²⁾ million in actual FY05 expenditures to the \$5,330⁽²⁾ million proposed for FY07.
 - b. Despite extremely misleading statements about a 1.5% increase, NASA's Science budget is facing a proposed 4.8% decrease from the \$5,596.8⁽⁶⁾ million initially appropriated by Congress in FY06 as stated in NASA's initial FY06 Operating Plan, although some of that reduction is due to an ill-advised lateral transfer to the Exploration Systems Mission Directorate.
4. Some of NASA's best and brightest scientists and engineers are leaving or contemplating leaving because of the hostile anti-science and anti-technology environment at NASA's Research Centers created by the current short-term, narrow-minded view of the VSE.

5. NASA management has allowed the dissemination of scientific information about Astronomy and Climate Change to be interfered with by managers within NASA's public affairs office acting with improper political motives.
6. The weakening of civil-service protections, created by the decision to implement full-cost recovery of salary, exposes NASA's workforce to improper internal and even external influences and pressures. America needs to return to the incorruptible, straightforward, direct allocation of civil service salary based on complement in order to keep its scientific and engineering experts free from the fear of harassment and termination or from the enticement of financial reward, so that we may continue to trust the independent information, judgment, and advice that the nation gets from them and bases its policy decisions on.
7. NASA has dramatically cut its education program and grant/fellowship support for young scientists in training. NASA's failure to meet its responsibility to nurture the next generation of aerospace scientists and engineers may have the greatest adverse long-term impact of all. In my opinion, NASA should be less concerned about a 4-year gap in US-piloted access to space and more concerned about a burgeoning 4-fold gap (currently 2.5-fold by the most conservative estimates⁽⁷⁾) between China's and America's production of new engineering graduates, with India not too far behind.

The good news is that the worst aspects of the proposed damage could be reversed and key capabilities kept minimally functional by a relatively modest investment of about \$350 million, either by increasing NASA's top line or by rebalancing the current budget and moderating the excessively rapid budgetary increases proposed in support of two parallel full-fledged manned spaceflight programs. We ask that NASA restore no less than \$179 million to Aeronautics to bring this budget back to rescission-corrected FY06 levels, restore at least \$132.2 million to Science to bring this budget back to FY06 levels, and put a minimum of \$50 million annually into the set-aside for Life and Microgravity Science mandated by the NASA Authorization Act of 2005, to keep these critical capabilities minimally active until such time that this program can be fully restored to support the true goals of the VSE.

A simple retreat from the unreasonable haste in Constellation timelines could free up sufficient funds to keep NASA's Science and Aeronautics missions minimally healthy. Furthermore, the rush to fly CEV is harming CEV itself by locking us into antiquated notions of spacecraft design and mission operations from the Apollo and Shuttle eras.

The intermediate to long-term space operations beyond low-earth orbit contemplated for the VSE will necessarily require much greater autonomous capabilities and this in turn will require incorporating advanced technologies (some that can be adapted from today's advanced commercial and military airplanes; some that need further maturation). All of this technology infusion will require careful and thoughtful testing and validation. We also need to pursue a vigorous research effort in Space Life Science in order to develop effective countermeasures for the long-term adverse effects on crew health and performance during the long-duration missions contemplated by the VSE. These, and other critically important things, cannot happen if the

design period is truncated to meet unreasonably early delivery dates and if NASA's Life and Microgravity Science capabilities are sacrificed to provide transient relief for a sustained budgetary problem created by the juxtaposition of a Herculean schedule with an anemic budget.

Looking at the big picture, it would seem that if the United States is going to remain a super power, it must make long-term Research and Technology investments to assure its future economic and technical supremacy over those nations striving vigorously to dethrone it. Unless we make pro-active decisions today that revitalize our commitment to the scientific research and technology development instrumental to a successful VSE program, to a safe and competitive US civil aviation system, and to the maintenance of America's unique international status in science, I fear that NASA and the nation may face a slow but inexorable slide into technical and scientific mediocrity. I ask that you take a stronger stand for science and technology at NASA and throughout the government, lest this fear become a reality. Superpowers don't simply happen; they are created by a sustained pattern of forward-thinking investments to make sure that the nation remains unsurpassed in technological and scientific excellence and productivity, from which flows both economic prosperity and homeland security.

I thank you in advance for your, and President Bush's consideration of these views.

Sincerely,



Gregory J. Junemann
President, IFPTE

cc:

The Honorable Speaker Hastert and Minority Leader Palosi
The Honorable Majority Leader Frist and Minority Leader Reid
The Honorable Chairperson Boehlert and Ranking member Gordon
The Honorable Chairperson Hutchison and Ranking member Nelson
The Honorable Chairperson Wolf and Ranking Member Mollohan
The Honorable Chairman Shelby and Ranking member Mikulski
Dr. Griffin, NASA Administrator
Dr. Lennard A. Fisk, Chairperson of NRC committee on balancing NASA's Science program

1. See <http://www.whitehouse.gov/omb/budget/fy2006/nasa.html> for the actual FY04 expenditures.

2. See <http://www.whitehouse.gov/omb/budget/fy2007/nasa.html> for the actual FY05 expenditures as well as the FY07 proposed appropriations.

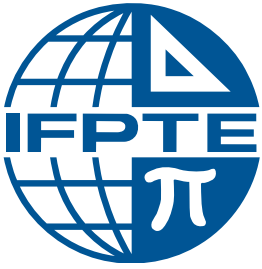
3. See <http://thomas.loc.gov/cgi-bin/query/z?c109:S.1281>: The \$962 million is also the FY07 Aeronautics budget called for in the NASA Authorization Act of 2005.

4. See http://www.nasa.gov/pdf/142458main_FY07_budget_full.pdf on page SAE ESMD 3-1.

5. See http://www.nasa.gov/pdf/142458main_FY07_budget_full.pdf on page SAE ESMD 4-4. Note that the reference in the President's budget to the FY05 final Operating Plan call for \$888.1 million for HSR&T does not jibe with the final expenditures for OBPR of \$925 million in (2) above. However, even if the lower value is used, the budget for this activity has been cut by 69%.

6. See <http://images.spaceref.com/news/2006/2006.02.06.OP.pdf>. Add first column (President's proposed FY06 budget of \$5,476.3 million) and second column (appropriation bill direction to modify the President's budget by +\$120.5 million) to compute the initial appropriation level of \$5,596.8 million. This is a conservative estimate because it takes advantage of loopholes that allowed NASA to focus general reductions in the Appropriations bill to the Science budget. However, even if one neglects the Appropriators direction entirely and uses the raw Presidential FY06 budget, the FY07 proposed Science budget is 2.7% lower than proposed for FY06. The only way to create an illusory +1.5% increase in the FY07 budget was to retroactively cut the FY06 Science expenditures below both the Presidentially proposed and Congressionally appropriated levels stated above down to the \$5,254.7 million in NASA's FY06 Operating Plan.

7. See <http://www.csmonitor.com/2005/1220/p01s01-ussc.html>



Appendix H

INTERNATIONAL FEDERATION OF PROFESSIONAL & TECHNICAL ENGINEERS

AFL-CIO & CLC

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April 26, 2006

Hon. Richard Shelby, Chairman
Hon. Barbara Mikulski, Ranking Senator
Appropriations Subcommittee on Commerce, Justice & Science
United States Senate
Room S-146A of the Capitol
Washington, DC 20510

Dear Chairman Shelby and Ranking Senator Mikulski,

In preparation for today's 2pm hearing with NASA Administrator Michael Griffin, and as you embark on the difficult task of crafting the Fiscal Year 2007 (FY07) Appropriations for the National Aeronautics and Space Administration (NASA), the International Federation of Professional and Technical Engineers (IFPTE) urges the Subcommittee to consider the following three important questions:

- How will NASA be able to support America's threatened leadership in civilian and military aviation if it cuts its Aeronautics research and development (R&D) budget by a quarter from FY05 levels?
- How can NASA lead the world in studying and understanding our home planet, our solar system, our Universe, and the forces acting upon them if it cuts its Science budget by almost 10% from FY05 levels?
- How can NASA attract and retain a workforce with engineering and scientific skills and capabilities second to none if it continues to threaten its scientists and engineers with layoffs in order to meet arbitrary downsizing quotas?

We at IFPTE believe that preserving America's leadership in Aeronautics R&D is a national priority that cannot be exaggerated. We must not grow complacent especially in the face of the serious competition from a European community that clearly understands the important role of government R&D in driving long-term technological breakthroughs and the associated economic vitality. The Senate should make sure that America remains at the cutting edge by appropriately investing in our nation's future, if we intend to leave our children an America as strong and secure as the one we grew up in. We cannot allow NASA's intellectual capabilities in Aeronautics to be farmed out to European interests while NASA's

current Administration is devoting 100% of its attention to Space Operations and Exploration. IFPTE urges you to once again adequately fund NASA's Aeronautics R&D programs at no less than the final funding level approved in FY06.

IPFTE believes that preserving America's leadership in Space and Earth Science is also a national priority. Given that ongoing climate change seriously threatens our economy and way of life, NASA must endeavor to learn as much and as quickly as possible about the natural and man-made forces that act upon our home planet. NASA must also continue to inspire the next generation of American scientists and engineers with continuous discoveries about our solar system and our Universe through exploration with amazing new telescopes and robotics. IFPTE urges the Subcommittee to reverse the proposed 4% cut to NASA's Science programs and to maintain these programs at a level at least equal to those appropriated in FY06. Today, the proposal is to sacrifice smaller, more vulnerable, Space and Earth Science programs, but you can be sure that when this stop-gap money runs out, there will be calls by some next year to cut the Webb Telescope and other cornerstones of NASA's scientific future. These are scenarios that only Congress can prevent.

We believe in NASA's Vision for Space Exploration (VSE) and envision a new generation of scientists and engineers inspired by the prospect of an American man or woman (now only a small child) setting foot on Mars and returning home safely with unparalleled scientific bounty. The workforce reshaping needed to meet the challenges of this dream is only possible if NASA maintains its traditional ability to attract its fair share of the best and brightest graduates this nation has to offer. NASA cannot be allowed to be transformed into what amounts to a temp agency, sacrificing long-term capabilities and long-held values to meet short-term budgetary pressures, especially when current downsizing targets can easily be met with voluntary attrition alone. The workforce chaos initiated a few years back is already causing many of NASA's best and brightest employees to flee and is undermining its ability to compete with elite academic and private-sector institutions for the best graduating talent. Unless some semblance of normalcy can be restored soon, the damage could be long term.

NASA's recently delivered Workforce Strategy is a largely content-less document that merely announces a mandate for downsizing the technical workforce by proclamation, with only the most superficial analysis of the future technical needs of the Agency and no analysis of the actual current capabilities of its workforce. IFPTE urges the Subcommittee to require NASA to deliver a more substantive Workforce Strategy that complies with the requirements of the Authorization Act and that contains real numbers of employees for each technical and administrative area, real justifications, a thoughtful retraining plan, a clear hiring plan given the large-scale attrition expected for NASA's aging workforce, and a real recruiting plan for meeting the technical challenges of the VSE. In the meantime, we ask that Congress forbid NASA from implementing lay-offs of non-managers during the next fiscal year.

In this light, we endorse the following three specific proposals and ask that the Subcommittee adopt them as a part of your FY07 underlying funding measure:

1. Appropriate at least \$903 million for NASA Aeronautics. This no-growth level carried over from FY06 represents a 6% cut from the authorized budget of \$962 million (as opposed to the

25% cut proposed in the President's budget). It is an increase of \$179 million, consistent with the Budget bill recently passed by the Senate. The proposed increase should be used to fully restore the Airspace Systems (+\$53.8 million) and Fundamental Aeronautics (+\$114.5 million) programs and to increase the Human-Systems Integration and Validation elements within the Aviation Safety program (+\$10.7million). We also ask that the Appropriators forbid NASA from allowing any of its financial or human capital to be diverted to support Aeronautics R&D efforts for foreign aerospace interests. Specifically, we ask that language be added to the report stating that: *"Although NASA collaborates with many foreign partners, the Agency works for the benefit of the American people and cannot outsource any of its resources in any way that might undermine our national competitiveness in Aeronautics."*

2. Appropriate at least \$5.5968 billion for NASA Science. This no-growth budget level carried over from FY06 represents a 4% cut from the actual FY05 expenditures of \$5.824 billion. It is an increase of \$132.2 million over the President's budget and requires that the Robotic Lunar Exploration program and funds (\$134.6 million) be retained within the Science account (as is appropriate given that the details of any ultimate human lunar exploration missions should be driven primarily by scientific goals developed and refined under this Science program). The proposed increase should be used to reverse proposed cuts to the Explorer (+17.7 million), Navigator (+17.3 million), Astrobiology (+\$30 million), and SOFIA programs (+\$67.2 million).

3. Streamline Administrative (G&A) costs and eliminate those for Reduction-In-Force planning and execution. The Corporate and Center G&A budgets, used in part to support an inefficient management system (NASA's administrative to Science-Engineering staff ratio continues to grow and has reached a ridiculous 0.46!), is the best potential source for sizeable inconsequential offsets for the increases proposed above. In particular, the \$41 million proposed to implement workforce reshaping should be severely cut. Given NASA's failure to provide any specifics in their recently delivered Workforce Strategy, we also ask that language be added to the report stating that *"None of the FY07 funds appropriated in this Act shall be used to prepare or effect any involuntary reductions in NASA's Civil Servant non-management workforce."*

To implement the above proposals, we strongly advocate for an increase in NASA's total budget. However, if this is not possible, the cost of our proposals can be recouped by relatively small decreases in the growth of the Exploration and Space Operations accounts, consistent with President Bush's pay-as-you-go philosophy. In that light, House Science Committee Chairman Sherwood Boehlert's specific proposal to reverse the current effort to accelerate the deployment of new manned spacecraft from 2012 to 2014 deserves strong consideration. This proposal would apparently free up \$695 million (the difference the Exploration Systems budget projected for FY07 in last year's Presidential budget -- \$3.283 billion without Prometheus -- and the one in this year's proposed budget -- \$3.978 billion). The full offset would not be necessary because less than \$400 million is needed to cover our proposals above while also fulfilling the call in the Authorization Act to sustain NASA's Life and Microgravity Science capabilities and programs, so crucial for any genuine implementation of the VSE. This approach is also appealing because it represents only a small slowing in the rapidly rising Exploration Systems budget and could be accomplished with no substantive impact on actual FY07 activities, given the apparent forward funding of future expenses and contingency costs within the proposed FY07 Constellation budget.

Thank you in advance for your consideration. Should you have any questions, you can contact me, or IFPTE Legislative Director Matt Biggs, at (301) 565-9016.

Sincerely,

A handwritten signature in cursive script that reads "Gregory Junemann". The signature is written in black ink and is positioned above the printed name.

Gregory J. Junemann
President

GJJ:kan
opeiu#2afl-cio

Appendix I

Subject: New Agency Assignment: Lunar Precursor and Robotic Program
Date: Fri, 26 May 2006 17:45:55 -0500
From: "Message From the Center Director" <Center.Director@msfc.nasa.gov>
To: XXXXX

Marshall Team:

I am pleased to pass along some exciting news released by the Associate Administrator for the Exploration Systems Mission Directorate (ESMD) today: we have been asked to take on an additional vital role in Exploration.

The Robotic Lunar Exploration Program (RLEP) has been renamed the Lunar Precursor and Robotic Program (LPRP) and will be located at Marshall. Marshall's Tony Lavoie, as Acting Program Manager for LPRP, will serve on detail to NASA HQ to spearhead the development of NASA's Human and Robotic Lunar Architecture being developed under the overall global architecture led by ESMD Deputy AA, Doug Cooke.

A new Lunar Lander Project Office also will be located here, reporting to the Constellation Program Office, and will be responsible for performing early trade studies and developing requirements for the Lunar Surface Access Module (LSAM).

We appreciate the confidence NASA Headquarters has in us, and we will now work to get the job done. As more details become available, we will share them.

David King, Director