

“I want to stress that there is very important work to do in the existing programs and that this work has to be accomplished before we move on as an agency. Some employees will move to the new program now. Some will continue to grow in the active programs and move later. Some will work in both programs, and some will stay with the Shuttle Program until its mission is complete and later join the operational program for Constellation. There is more than enough work to go around as long as we stay focused and are successful.”

Bill Gerstenmaier, Associate Administrator for Space Operations

NASA WILL MEET THESE CHALLENGES

one milestone at a time. With the success of *Discovery's* mission in July and *Atlantis'* assembly flight, the Space Shuttle Program will be clearly on the path to complete the International Space Station, and another step closer to fulfilling its mission.

Even as the Shuttle Program focuses on completing the most complicated on-orbit assembly ever attempted and the station begins to realize a greatly expanded operational capability, the Exploration Systems Mission Directorate, through the Constellation Program, is bringing forth a new exploration architecture and the vehicles that will carry America back to the moon and on to Mars.

NASA's current human spaceflight activities are geared toward ensuring the success of this future architecture. The complexity of upcoming assembly missions will provide valuable technical lessons. Equally, they will provide unparalleled training for new engineers. During this transition period, growth in operational experience will continue and developmental capacity will be restored.

Although hardware tends to get the most attention when it comes to developing new programs, the ultimate driver of any program's success is its workforce. The knowledge and skills of the people in the Shuttle and Station Programs are invaluable assets to both current and future human spaceflight programs.

One of NASA management's greatest priorities is maintaining the capability to complete the assembly of the station (an essential component of the Vision) while striving to transition the workforce seamlessly, effectively and deliberately to new programs and projects. This priority is shared between the Exploration Systems and Space Operations Mission Directorates (Shuttle, Station and Constellation), as well as all NASA field centers and the agency as a whole.

ACROSS THE AGENCY

In response to a congressional request for insight into how NASA will realign to implement the Vision, the agency developed the "Human Spaceflight Transition Plan," which describes the overarching strategy for transitioning Shuttle Program resources. The plan also identifies management and board structures that

will have authority to make transition-related decisions. The plan is available online at: <http://sspweb.jsc.nasa.gov/upgrades/transition/documents.htm>

A ground rule for the transition is that it must be accomplished in a manner that does not compromise the safety of ongoing flight operations. In addition, transition decisions should be made within the context of safeguarding the long-term viability of U.S. technical capabilities in anticipation of future challenges and opportunities.

Development of the transition plan was a daunting task, so NASA conducted a series of benchmarking research of large-scale, high-technology program transitions and/or closeouts that had been completed. The review subjects included the Titan IV rocket fly out, the F/A-18 fighter production closeout, and the Navy Base Realignment and Closure process, among others. These reviews allowed NASA to capture mistakes and lessons learned from previous experiences and apply them appropriately to its own transition situation.

Transition "Lessons Learned" Benchmarking Research

- Very important to have a "going in" plan.
- Regulatory impacts, requirements and technical challenges must be understood early for any hope of effective management.
- Keep internal and external stakeholders appropriately informed about current progress and future work.
- Strong leadership is essential, especially when critical skills must be maintained for follow-on programs.
- Execution requires the use of smart program management tools.
- Contract structure must allow for flexibility.
- Transition is expensive and takes time.

To incorporate these lessons and address other issues within the broad scope of transition, NASA headquarters established a Transition Control Board (TCB) and a Transition Working Group.

The TCB, managed by NASA Headquarters and involving all of the key stakeholders, handles tactical transition issues such as whether it is acceptable to shut down a unique manufacturing capability once it has fulfilled its Shuttle Program obligation, or how to handle funding gaps between the last need date for an asset and Constellation's first need date.

Headquarters also established the Transition Working Group to address specific areas of emphasis such as historical preservation, environmental remediation and legislative affairs. Just as the three program offices are working closely together, these integration forums at headquarters are ensuring that consistent, integrated guidance is flowing to all of the teams.

Transition issues are complex. Therefore transition planning will be an iterative, evolutionary process requiring tight integration between the shuttle team and those involved in developing future exploration systems. Careful implementation of the transition strategy will help ensure that NASA is properly aligned to execute the Vision for Space Exploration.

WITHIN THE PROGRAMS

Soon after the Vision was announced, the Shuttle Program began evaluating what hardware, infrastructure and workforce would be needed to support missions through 2010. Concurrently, the Station Program identified impacts and challenges of shuttle retirement on station logistics support and utilization after 2010.

In accordance with the Vision, the Shuttle Program will complete assembly by 2010, thereby meeting commitments to NASA's International Partners and solidifying the station as a world-class research facility to support NASA goals primarily focused on the Exploration mission.

The Shuttle Program will play a crucial role in coordinating the smooth transfer of its assets and capabilities to the next generation of space exploration systems. This will require working through project, program, directorate and agency-level processes.

The human spaceflight programs and mission directorates are encouraging close relationships between the three programs. In addition, the co-location of program management at Johnson Space Center facilitates communication and the identification and appropriate disposition of transition assets.

Over the next several years the Shuttle, Station and Constellation Programs will work together to define an efficient transition of people, hardware and facilities. Last-need dates, first-use dates, specifics of flight manifest and processing schedules are all necessary inputs to the transition process and for providing accurate strategic guidance for budgeting.

The Shuttle Program is in the process of completing a strategic assessment of all capabilities as a basis for its closeout plan. The Station and Constellation Programs will determine the usefulness of these capabilities and identify when they are needed. Gaps and overlaps will be managed by the TCB.

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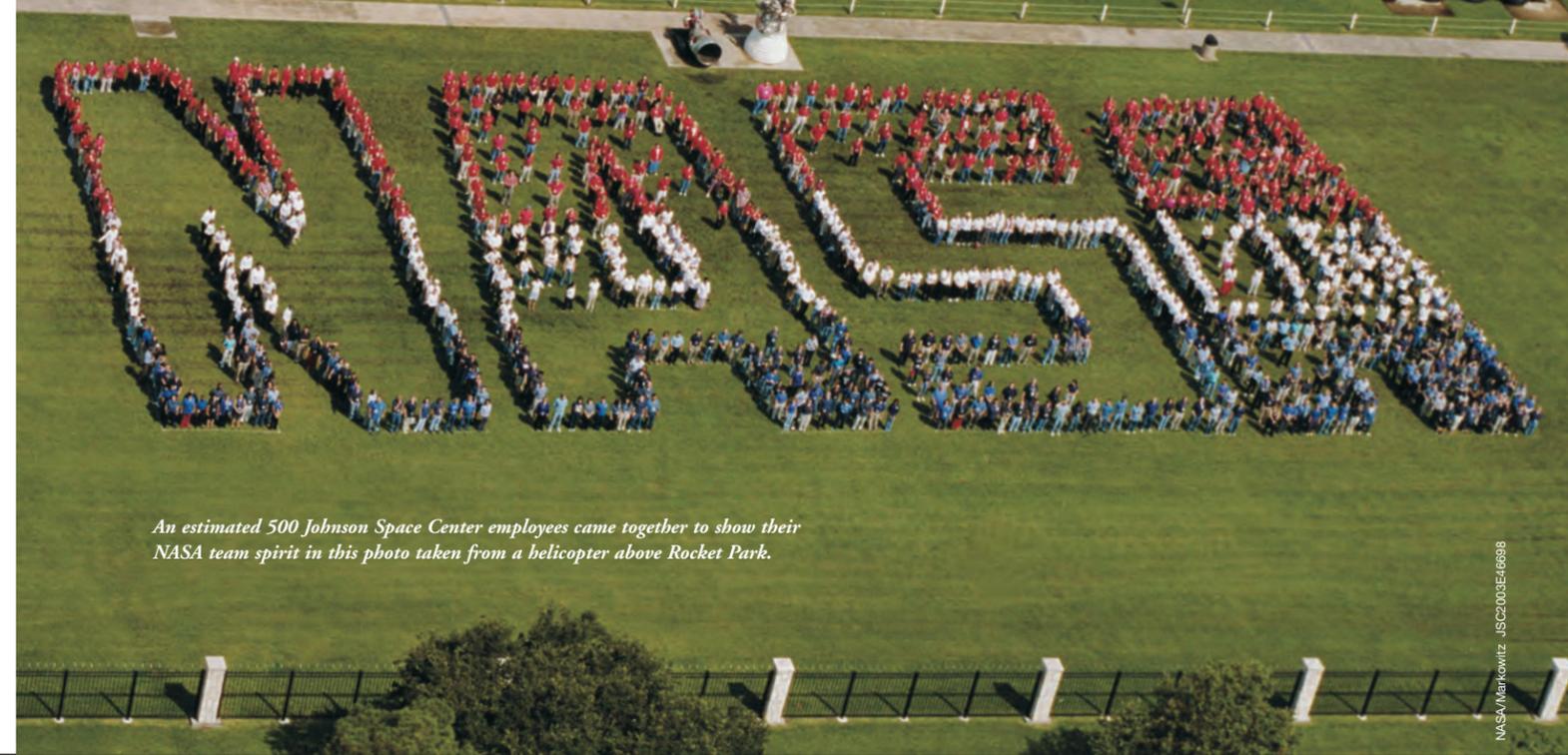
“This is a very exciting time for NASA and this country,” said Scott Horowitz, associate administrator for Exploration Systems. “New systems will be flying sooner than we think. We are only 26 months away from the launch of the Lunar Reconnaissance Orbiter/Lunar Crater Observation and Sensing Satellite,” he said. “And the first test flight of a full-scale Ares I (with simulated second stage) is only 33 months away.”



DID YOU KNOW...

The Space Shuttle Program

- occupies 640 facilities valued at over \$5.7 billion, nearly one-fourth of the value of NASA's total facility inventory?
- uses over 900,000 line items of equipment worth over \$12 billion and dispersed at hundreds of locations nationwide?
- employs over 2,000 civil servants and more than 15,000 contractors, and accounts for over 3,000 members of the various centers' general and administrative workforce and service pools?
- has nearly 1,542 active suppliers and more than 3,000 qualified suppliers throughout the country?



An estimated 500 Johnson Space Center employees came together to show their NASA team spirit in this photo taken from a helicopter above Rocket Park.

NASA/Markowitz JSC2003E46988

The Shuttle Program further focused on its transition responsibilities by naming Deputy Space Shuttle Program Manager Robert Lightfoot as its transition manager and chartering an integration team within the program office to support the transition effort. Additionally, all of the shuttle project offices have identified transition managers responsible for planning and implementing project-specific transition activities.

The Shuttle Program has hosted several technical interchange meetings on various transition topics to assess existing agency capabilities in areas related to human capital management, real and personal property disposition, data archiving, historical preservation and environmental remediation.

At all levels, standing control boards have been established to provide insight and guidance and to enable decisions on important transition issues.

JOHNSON SPACE CENTER

The JSC Transition Integration Panel (JTIP) has been established as a forum for the planning, coordination and integration of transition-related activities among the Shuttle, Station and Constellation Programs and JSC as a whole.

The JTIP includes equal representation from Shuttle, Station and Constellation Programs, as well as from the Center Operations Directorate. Representatives from all affected JSC directorates and organizations are included to ensure a comprehensive planning effort. The JTIP membership is included on the Web site.

The panel functions in a three-tiered approach.

The first tier addresses the development and implementation of divestment plans for the shuttle elements and direct support organizations based at JSC. The Orbiter Project Office, Mission Operations Directorate and White Sands Test Facility have already

presented preliminary transition plans, and the other organizations will be documenting their plans this fall.

The second tier establishes a working forum for multi-program coordination and integration among the Shuttle, Station and Constellation Programs. This includes topics such as cost-sharing, risk management and asset transfer agreements.

The third tier incorporates center-based functions, including property disposition, environmental, historical and archiving activities, and the resulting workforce impacts. A center-wide facility utilization review is underway to identify future needs and update the JSC Master Site Plan accordingly.

All three tiers combined will generate a comprehensive plan for transition at JSC.

Future communications will update the community on planning and implementation activities at JSC and across the agency. For this plan to be successful, it is imperative to have open discourse relative to transition activities ongoing at the center, program and agency levels.

It is key for the workforce to be part of the communication process. Employees are encouraged to provide feedback or ask questions concerning this article or any transition topic via the JTIP Web site at <http://sspweb.jsc.nasa.gov/upgrades/transition/jsclnt/jsclnt.htm>.

Comments or questions can be submitted anonymously, or a name can be provided for direct response.

TRANSITIONING INTO THE FUTURE

Managing the retirement of the shuttle is particularly challenging since NASA will conduct a series of complex station assembly missions and possibly a Hubble servicing mission while simultaneously exploring and developing future transportation alternatives. Parallel operations and development activities will

require that NASA find new ways to use existing shuttle workforce, hardware and infrastructure assets efficiently and effectively.

In conjunction with these activities, NASA will identify shuttle capabilities required for new Exploration systems and preserve them for potential future use. The agency also will identify capabilities no longer required for near-term missions or future vehicle development so that associated resources can be allocated to other investments while ensuring those important contributions to the history of human spaceflight can be recorded and preserved.

Transitioning from the space shuttle to the architecture beyond in a way that ensures continued safety in ongoing operations is the primary goal of the agency and JSC. To accomplish this task, attention will focus not only on maximizing the efficiency with which resources are used, but also respecting the workforce, while protecting critical national capabilities that will be needed to support the Vision for Space Exploration.

JSC Transition Integration Panel Objectives

- Develop and implement divestment plans for JSC-based shuttle elements and support organizations.
- Provide an integrated assessment of functional capabilities across the center (i.e. equipment, facilities, suppliers, and workforce) by
- Be the established communication forum to ensure that all stakeholders assess the impacts of transition activities.
- Make coordinated recommendations to address/mitigate the issues.
- Identify gaps and overlaps in need.
- Serve as the JSC pre-board for items moving through the transition board process.
- Coordinate "down and in" and communicate "up and out."

For more information on the Space Shuttle Transition Program, visit:

<http://sspweb.jsc.nasa.gov/upgrades/transition/jsclnt/jsclnt.htm>