National Aeronautics and Space Administration

The Critical Path

A Flight Programs and Projects Directorate Quarterly Publication
A Newsletter Published for Code 400 Employees

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INSIDE THIS ISSUE:

GOES-N About to Launch – GOES-R Coming Down the Line

INTRODUCTION

Shortly after this article is published, NASA and NOAA will launch the latest in a long line of Geostationary Operational Environmental Satellites. The first of the GOES-N/O/P satellites – GOES N, built by Boeing Satellite Systems, will lift off from KSC on June 23 to begin the replacement of the GOES I-M satellites on that were provided by Space Systems/Loral. This article, however, isn't about the present, it's about the future. But first, some background.

HISTORY

The first geostationary weather satellite, SMS-A, was launched May 17, 1974. SMS was the acronym for 'Synchronous Meteorological Satellite'. SMS-B was launched February 6, 1975. SMS-C heralded the GOES era when it was named GOES-A.

(GOES Continued on page 6)

NOAA-N and GOES-N Update

As we go to press, NOAA-N's has had a number of scrubbed lift offs. Next attempt from Vandenberg Air Force Base, California, will be no earlier than Friday, May 20. Right behind that launch, GOES-N is ready to blast off from Kennedy Space Center on June 23. We plan to have follow up stories about both spacecraft in the next issue of The Critical Path.

Message from the Director Of

Greetings:

As I prepare to enter my ninth month as the Director of Flight Programs and Projects, I am somewhat astonished by the changes, challenges and opportunities that we are being given. Of the many attributes we expect our leaders to possess, agility is the one being called upon on a daily basis. In my last message, I commented on the uncertainties that existed as we waited for the President's Budget to be released. Well, we have the budget, but the impacts to both new and existing programs must still be played out as overall NASA mission priorities are established. Our new Administrator, Mike Griffin, has a monumental task to accomplish as he must determine how best to use the available resources to fully support an aggressive set of goals and missions.

We in the FPPD continue to do our jobs, as we perform the technical, schedule and cost tradeoffs that provide the data necessary to evaluate the possible alternative approaches. It is often disheartening to be forced to modify a project's implementation strategy that is working well because the available funding profile has been changed; or to be forced to evaluate real reductions in technical capability because the required resources no longer permit the completion of the baseline program. But, that's the environment that we live in. Lamenting what could have been is interesting, but not very useful. Each of the FPPD managers is performing his/her job in an exemplary manner, and the effective leadership that you are demonstrating will not only ensure that the NASA Programs now being developed by the GSFC are accomplished in the most efficient manner but that we will be able to compete for and win the exciting new programs on the horizon.

In addition to the challenges that Mike Griffin must conquer in the near term, he is aggressively establishing a bold new approach to NASA's future. Building on an extensive government, industry and academic base, he has already focused many key new initiatives on answering the fundamental question that must be kept at the heart of any new effort: what problem are we trying to solve, and how does the proposed cause of action contribute to the optimal solution. Based upon his decisions made to date, I am absolutely convinced that NASA – and GSFC – is moving in the right direction. NASA needs technically competent and innovative scientists, engineers and managers. Nowhere else in the Agency does a group of individuals exist with the full breadth and depth of these skills; GSFC remains a truly unique capability. As we hone our skills, develop the next generation of FPPD leaders, and apply our internal resources to the timely delivery of those technologies that enable us to meet the toughest future scientific and talent challenges, we must remember that although we may be extraordinary as individuals, it is only through teamwork and collaboration that we can be great. Your resourcefulness and willingness to overcome any obstacle – demonstrated daily by each of our programs, projects, missions and offices – are recognized and gratefully acknowledged. I thank each of you for your dedication and unyielding support.

Rick

For the information of many of our retirees and individuals located outside of Goddard, "Rick" is Rick Obenschain, Director of Code 400 (FPPD). Rick is a former Project Manager and Director of Engineering at Goddard, and has assumed positions of ever growing responsibility over the years at the Center.

PERSONALITY TINTYPE

Dave Baden

Dave is the Program Business Manager for the GSFC Integrated Financial Management Projects (IFMP) Office/405. He has held this position since August 2002.

Born: Takoma Park, Maryland

Education: Bachelor of Science Degree in Business Administration from Frostburg State University.

On Family: Dave, his wife Susan, son Matt, Golden Retriever Sandy and 2 cats, Abby and Sunshine live in Calvert County, Maryland. Susan teaches at Sunderland Elementary School and Matt is a sophomore at Huntingtown High School.

Life on IFMP: Interesting and challenging. Dave has had the opportunity to work with some of the best managers, financial, resources and systems folks here at GSFC and from other Centers while working on IFMP. The Project was established to support management initiatives Agency wide and at GSFC level for development and implementation.

Life before IFMP: After graduation, Dave worked in private industry for 8 years before becoming a civil servant at GSFC in 1989. Dave started out in Code 603 as a Resource Analyst supporting the Laboratory for Extraterrestrial Physics. In 1991 he moved to a Resource Analyst position on the GOES Program to support the GOES I-M Spacecraft. After spending 5 years on GOES, Dave was selected as the Program Support Manager on the EOS Chemistry & Special Flights Program (now called AURA). After supporting AURA for a year, he was reassigned as the Program Business Manager for the International Projects Office. Dave supported the International Program Office for 4 years before the program office was closed down.

He was then asked to fill the vacant Program Business Manager's position within the New Millennium Program Office. After the EO-1 launch, Dave was selected to the position as the Deputy Project Manager for Resources for the Earth System Science Pathfinder (ESSP) projects. Two years later Dave was asked to be the Program Business Manager for the IFMP Office, the position he currently holds. Throughout Dave's career at GSFC, he has managed business resources through launch of GOES-I, SAC-C, XMM, Astro-E, HETE-II, EO-1, GRACE, and the Go-Live for the financial systems; Core Finance, Budget Formulation, WebTADs, and e-Payroll. Dave expressed his gratitude to the many managers and co-workers that he has enjoyed meeting and working with throughout his career.

Hobbies: For the past 10 years, Dave has coached football, basketball and baseball in local youth sports clubs and continues to volunteer as Vice President of the Calvert Babe Ruth League. He currently coaches a 16 year old travel team and a Junior American Legion baseball team. In the fall he coaches the Huntingtown High School baseball team. While not coaching, Dave likes to spend time with family and friends, following his son's sporting activities and when he finds time, fishing, playing softball and relaxing by the pool.

FEEDBACK

GSFC Resident Office at KSC

- Excitement is in the air preparing shuttle Discovery for "Return to Flight". It has been two years since we have had an orbiter scheduled to go to the International Space Station (ISS). The second redesigned external tank (ET) with "Return to Flight" modifications has been mated to the orbiter. The tank has been outfitted with temperature sensors and accelerometers, used to measure vibration. These sensors will gather information about how the tank performs during flight. Raffaello, a re-supply module will deliver food, clothing, spare parts and research equipment to the ISS. This mission will replace a gyroscope and provide attitude control for the ISS, keeping it properly positioned in space. The launch window for this STS-114 mission to the ISS is now in July due to limitations on photos.
- New construction and facility repairs continue to occur throughout Kennedy Space Center (KSC), mainly due to the hurricanes we had in 2004. The hurricanes left a lot of damage to several buildings and temporary structures requiring permanent replacement. The skyline has changed at the Press Site located across the street from the Vertical Assembly Building (VAB). The old Press Site has been removed and several temporary structures have been taken down to make way for a new engineering building. We also have a new training facility that is being built behind the NASA Headquarters building. This facility does not replace the existing Training Auditorium but is a much needed building to be used for training and development activities, as well as conferences and meetings.
- Ground Operations Review (GOR) meetings, Mission Integration Working Group (MIWG),

(FeedBack Continued on page 13)

Funds Control Tiger Team & Implementation Team

The level of funds control in the Core Financial (CF) system has been an ongoing issue across the Center since go-live in June 2003. Concerns from the project community have been communicated to Center management through various forums, including the MSR process. Additionally, Center Director Dr. Ed Weiler received feedback directly from Code 600 scientists on the severity of the problem, resulting in their inability to effectively manage their funds without negatively impacting their programs.

Attempts to change configuration of the CF system at the Agency level have been unsuccessful up to this time. The postponement of Enterprise Upgrade to CF eliminated the possibility of a near-term solution to the Agency configuration. An integration office was created in the Integrated Financial Management (IFM) Program Office/Code 405 to address the issues that impact multiple IFM modules. Because of the magnitude of the impact to the GSFC community, the Integration Team was asked to lead an initiative to address funds control at the Center. The funds control initiative will be managed as a project, with status reported monthly to Center management through the MSR process and the IFM Advisory Council.

The first step in addressing funds control at the Center was to establish a Tiger Team consisting of representation from across the Center. The team was comprised not only of Resource Analysts and Program Analysts, but was also supported by the science and engineering communities as well. Most Directorates were represented on the team. The deliverables required by the Tiger Team included a Scope Document, a Requirements Matrix, and a Functional Design Document. The outcome of the Tiger Team's work was a recommended solution with a project plan and schedule for development and implementation of a Center-wide solution.

The Tiger Team focused on 5 areas (Level I requirements):

Funds Issuance - 506 process used by HQ to send funds to the Center.

Funds Transfer - Process of distributing funds within the Center to include distribution to Fund Centers and Commitment Items; transfer to Cost Pools; and transfer between Commitment Items within a Fund Center.

Funds Control - Establishing funding allocations at lower levels and preventing users from completing transactions that would exceed the funds allocation at the WBS level specified.

Funds Visibility - Mechanisms in place to allow users to understand their current status of funds.

Funds Management - Actions by individuals using information for decision-making.

After meeting twice a week during the January/February timeframe to determine the Level 3 and Level 4 funds control requirements, three separate alternatives were conceived and presented to Center management:

Alternative #1 - Develop a web-based system to provide ability to easily determine the expenditures and available balance for any level WBS (including RTOPS).

Alternative #2 - Request Agency reconfiguration of SAP to provide a capability that would prevent users from entering a transac-

(Funds Continued on page 5)

(Funds Continued from page 4)

tion that would exceed their 7-digit WBS funding allocation.

Alternative #3 - Develop a Center system that would be used to perform transactions, providing the capability that would prevent users from entering a transaction that would exceed their 7-digit WBS funding allocation.

The Tiger Team recommended Alternative #1 to the IFM Advisory Council and the Goddard Executive Council. On March 9, the Goddard Executive Council gave approval to proceed with the project using Alternative #1.

Alternative #1 Functionality

506

- Provide notification of 506 receipt and distribution to full cost elements
- Provide notification of earmarks and lower level WBS funding information from HQ

Fund Transfers

- Provide ability to initiate a funds transfer electronically
- Use a standard process and template for all fund transfers
- Provide notification when transfer is complete in SAP
- Expedite the fund transfer process by automatically creating a file for execution in SAP to accomplish fund transfers upon approval
- Provide visibility into the standard process of reserving funds for variable full cost elements, based on funds received
- Provide notification and history of rate changes for Center G&A and pools

Allocations Versus Actuals

- Specify allocations at any WBS level, for any Commitment Item, Cost Center, and Internal Order
- For institutional budgets, specify allocations at lower levels to include Directorate, Division, Cost Center, and Internal Order
- Provide visibility of actuals at the same level of the allocations
- Provide notification when a transaction in SAP exceeds the WBS allocation at any level

Funds Status

- On a daily basis, provide view of transactions and available balance for any level WBS to include Allocations, Commitments, Obligations, Costs, PRs, Bank Card purchases, Store Stock orders, Travel, and Cost Pool charges
- Provide a monthly statement to WBS owner that identifies the elements identified for the daily view
- Provide visibility of labor charges to WBS Owner
- Improve accuracy of labor charges by making labor number descriptions more meaningful in WebTADS
- Provide ability for purchasers to check available balance of procurement dollars at any level WBS prior to making a purchase

Phased Approach

Phase 1: October 3, 2005

- 506 notification, including earmarks and lower level WBS funding information and distribution to full cost elements
- Allocation versus Actuals
- Notification when a transaction in SAP exceeds the WBS allocation
- Daily funds status, including view of transactions
- Monthly funds status statement
- Electronic request of funds transfers with creation of flat file for execution in SAP

(Funds Continued on page 11)

(GOES Continued from page 1)

After reaching orbit, GOES satellites are given numbers, so GOES-A became GOES-1. This prevents a missing number if the satellite doesn't achieve orbit (missing letters are OK). SMS-A through GOES-C were essentially the same spacecraft. Starting with GOES-D, a despun platform was implemented in order to improve data transmission. GOES-H was the first GOES satellite to carry the experimental search & rescue emergency distress detection equipment – which would become known as SARSAT. GOES-I was the first 3-axis stabilized satellite to be implemented for GOES which provided a remarkable improvement in weather imaging and atmospheric sounding. Prior to GOES-I, all of the satellites were spinners.

Table 1 provides a summary of the GOES satellite designations and launch dates. Figure 1 provides a summary of GOES satellite launches and lifetimes.

SATELLITE	GOES #	LAUNCH
SMS-A		May 1974
SMS-B		Feb 1975
SMS-C / GOES-A	1	Oct 1975
GOES-B	2	Jun 1977
GOES-C	3	Jun 1978
GOES-D	4	Sep 1980
GOES-E	5	May 1981
GOES-F	6	Apr 1983
GOES-G	*Launch Failure*	*May 1986*
GOES-H	7	Feb 1987
GOES-I	8	Apr 1994
GOES-J	9	May 1995
GOES-K	10	Apr 1997
GOES-L	11	May 2000
GOES-M	12	July 2001
GOES-N		*6/2005* *
GOES-O		*4/2007* *
GOES-P		*10/2008* *
GOES-Q	*Not Contracted*	
GOES-R		*9/2012* **
GOES-S		*4/2014* **
GOES-T		*10/2015* **
GOES-U		*4/2017* **

Table 1

* *Planned Launch Date*
** *Launch Readiness Date*

***Note*:** SMS-A through GOES-C were built by Ford Aerospace and Communications Corporation (Space Systems/Loral)

GOES-D through GOES-H were built by Hughes Space and Communications (Boeing Satellite Systems)

GOES-I through GOES-M were built by Space Systems/Loral

GOES-N through GOES-P are being built by Boeing Satellite Systems

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(GOES Continued from page 6)

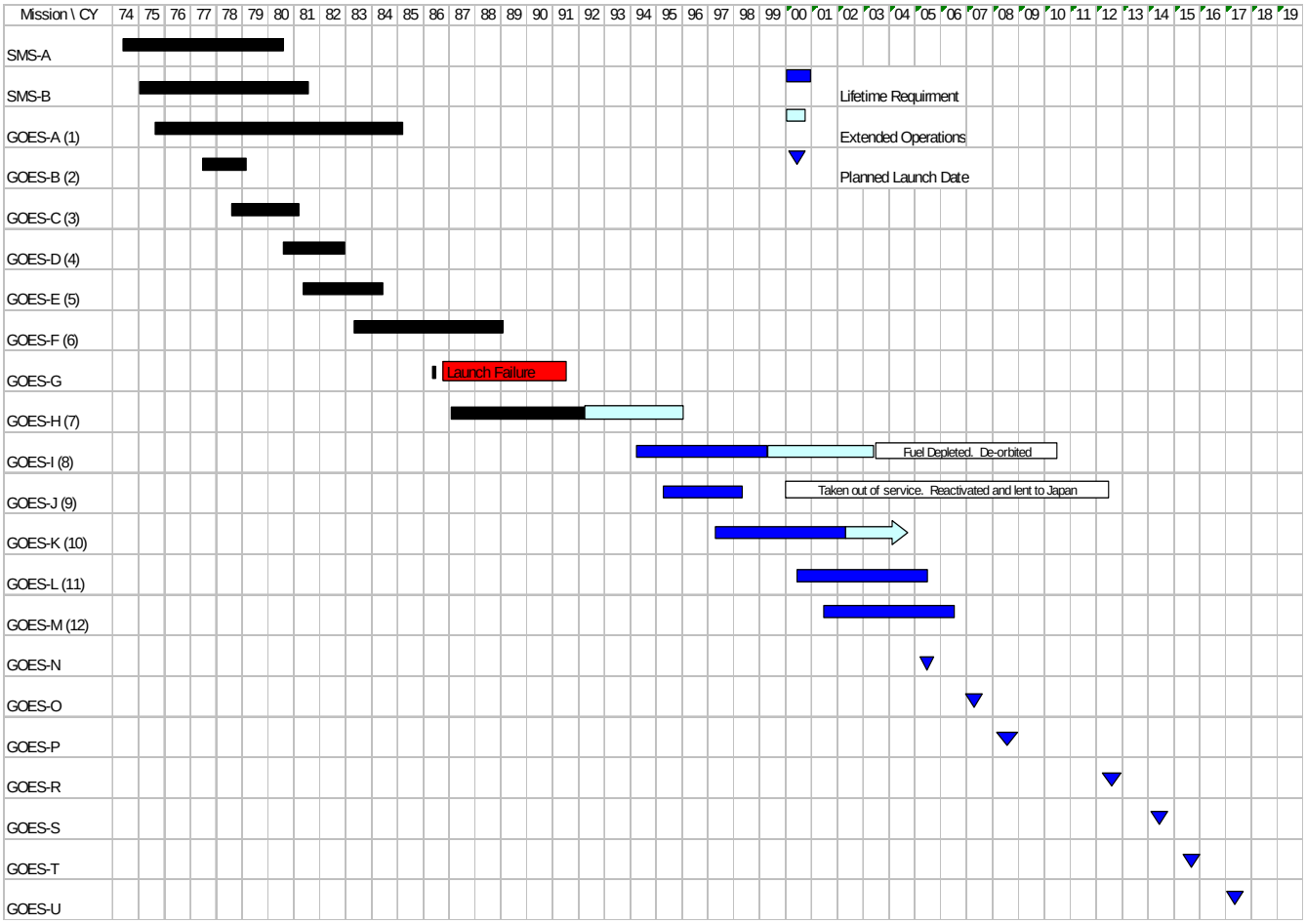


Figure 1

RELATIONSHIP with NOAA

Since 1960, when the Nation's first weather satellite, TIROS-1, was launched, NASA has overseen the development of civilian experimental and research oriented environmental satellite systems. The Department of Commerce, through NOAA and its predecessor organizations, has overseen the operation of the civilian weather satellite systems. A series of Memorandum of Agreement (MOAs) have defined the relationship between NASA & NOAA. The first agreement was written in 1964. It was subsequently updated in 1973, and revised in 1997. The 1973 agreement established the arrangement in which NOAA provides requirements and funding and NASA acts as their agent in the procurement and development of the GOES satellites. With GOES-R, this is all about to change.

Starting with the formulation of the GOES-R/S/T/U series of satellites (GOES-R), NOAA is going to take a much more active role in the day-to-day management of the program. On March 22nd of this year, NOAA put out a press release that stated:

"… NOAA announced its acquisition management strategy for the upcoming Geostationary Op-

(GOES Continued on page 8)

(GOES Continued from page 7)

erational Environmental Satellite-R Program. NOAA will be responsible for the GOES-R mission and will partner with NASA to achieve mission objectives. NASA, at the Goddard Space Flight Center in Greenbelt, Md., will be responsible for supervising the GOES-R flight project, including the development of the command and control system, supporting advanced technology developments for instruments and spacecraft subsystems on GOES-R and future NOAA geostationary programs… NASA will place greater emphasis on research and development activities, providing a basis for NOAA's operational investments in geostationary orbit in the future. The GSFC is the project implementation center…"

One could read this press release statement and ask, "…what's different…?" What's different is what's left unsaid. While NOAA has always had overall responsibility for the GOES Program, with the existence of both a NASA and NOAA GOES Program Office, NOAA's hands-on responsibility for the day-to-day management of the program was diminished. NASA issued and managed the contracts, NASA made the technical decisions, NASA solved the problems, NASA launched the missions, NASA, NASA, NASA… And, while NASA's Program Office understood that NOAA was the customer and had the final say in matters that affected the program, the perception was always, NOAA provided the funds – NASA did the work. With GOES-R, the relationship, working arrangements, and ultimately perceptions are changing.

There are essentially three big changes in store for the GOES-R Program. The first is the fact that there will only be one program office, and it will be NOAA's. With the current NOAA N/N' and GOES N/O/P efforts underway, the expectation is that the existing NASA GOES/POES Program Office will continue being responsible for those programs, but it will not have management responsibility for GOES-R. That will rest with the newly formed GOES-R Program Office. Under this program office will be two new project offices; the GOES-R Flight Project, and the GOES-R OPS Project. Figure 2 provides an overview of the structure of the Program Office and two Project Offices.

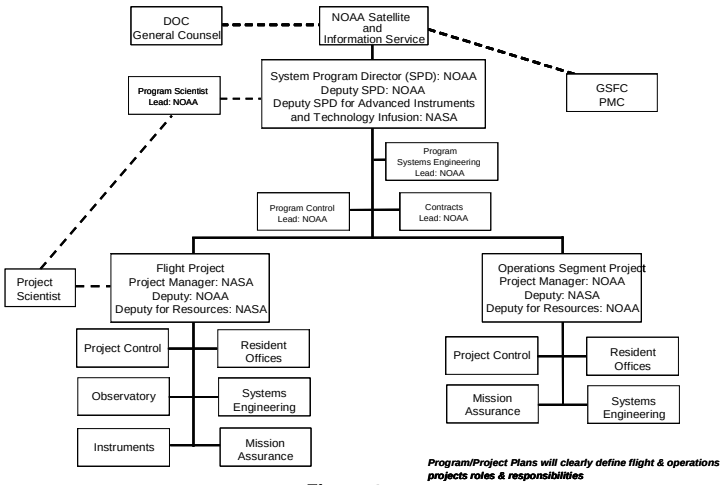


Figure 2

The second change is NOAA's decision to issue a single system prime contract, similar to the

(GOES Continued on page 9)

(GOES Continued from page 8)

NPOESS Shared System Performance Responsibility (SSPR) approach, for GOES-R. Tied along with the single prime contract is NOAA's decision to issue the contract themselves. This is a major departure from the past. Instead of transferring the funds to NASA and having NASA perform the procurements, NOAA is now planning on doing this themselves. NASA will still have a strong management & technical role in the contract, including the COTR-ship of the contract, but it will be issued by NOAA's Procurement Office. NASA still has the responsibility for issuing the Phase C/D contracts for the GOES-R instruments, but like NPOESS, the plan is to ultimately transfer these efforts to the single prime contract.

The third big change is the decision to relocate the entire GOES-R management structure to GSFC. The NOAA GOES-R Program Office, the Flight Project, and the OPS Project will all be co-located here at GSFC. The current plans call for NOAA to begin moving on Center in mid-July. The location selected for the co-location of the GOES-R effort is Bldg 6, where the current GOES/POES Program Office and Project Offices are located. This keeps all NOAA reimbursable projects in one central location.

> The GOES-R Project would like to take this opportunity to apologize to anyone and everyone that was displaced from their existing offices in order to achieve this goal of co-locating all of GOES & POES in one location. We are sorry for the disruption to your work and personal lives.

After months of negotiating, a nine page document was agreed upon that provided the framework for proceeding with the GOES-R mission. The following excerpts provide an overall summary of the roles and responsibilities for each agency:

GOES-R Overview

- The GOES-R system includes the instruments, spacecraft, launch services, and the ground system including the following functions: mission management, product generation, product distribution, archive and access, and user interface
- The GOES-R program is defined as the program office and the project offices underneath it
- NOAA and NASA will support an integrated program/projects approach collocated at GSFC
- A single System Prime contractor approach will be used to acquire GOES-R

(GOES Continued on page 12)

In Memory of William (Bill) Schiavone

William (Bill) Schiavone, the EOS Deputy Program Manager for Resources passed away on April 16, 2005, from complications of a stroke. He was 57 years old.

Bill was a 1969 graduate of the University of Maryland. He came to the Goddard Space Flight Center in 1970 as an Accountant/Financial Analyst.

Early in his career, Bill contributed to the success of ISEE A/B, ISEE-C, Hubble Space Telescope and UARS; he also was assigned to the Office of the Comptroller and the Flight Programs and Projects Directorate at Goddard.

In 1990, Bill moved to the EOS PM Project as the Deputy Project Manager for Resources; then to the EOS Program Office. His leadership in finance and program control was instrumental in the success of the EOS Missions.

Bill received numerous awards including the NASA Exceptional Service Medal in 1979.

A memorial service was held in Denton, Maryland on April 23, during which he was eulogized by George Morrow, Richard Austin, Michael Comberiate and members of his family.

Bill leaves behind his wife Debbie, two sons, William II and Paul and 4 grandchildren. Bill enjoyed his vegetable garden, raising chickens and most of all spending time with his family.

Bill's wisdom, guidance, dedication and fellowship will be greatly missed by the EOS Community and the Goddard Space Flight Center.

(Funds Continued from page 5)

upon approval
- Notification of completed transfers
- Notification of the reservation of funds for full cost elements, including understanding of standard process and full cost rate changes
- Bulletin board for broadcasting messages from the Center Chief Financial Officer
- Ability to deliver messages directed to specific WBS Owners and Resource Analysts

Phase 2: April 3, 2006
- Automatic full costing at lower level WBS, such as an RTOP
  - Provides default value based on standardized full cost business rules with the ability of Resource Analysts to override default value
- Automate OCFO funds reservation process that is currently handled in spreadsheets
  - Provides ability to execute full cost more quickly and consequently more frequently so that projects are billed according to actuals throughout the year
  - Releases funding to projects more expeditiously if workforce actuals are less than planned

Phase I Major Milestones	2005
• Critical Design Review	June 17
• Prototype	June 20
• Test Readiness Review	June 27
• Usability Test	August 5
• Operational Readiness Review	September 26
• System Go-Live	October 3
• Training	October 4 - December 15

Funds Control Implementation Team

The Fund Control Implementation Team is comprised of subject matter experts to help with the development of functional designs, test preparation, and test execution for Phase 1:

Code 150: Vince Elliott, Stephanie Gray
Code 200: Cheri Carroll, Sherri Wood
Code 400: Bernie Cullinan, Tracy Parlate, Kathy Shifflett
Code 500: Dona McKenney
Code 600: Gina Baldessari, Mike Horn, Arlene Kerber, Andy Negri, Debra Norton
Code 800: Hope Garrison

If you have any questions or require any additional information on the Funds Control Project, please contact Debbie Sharpe, the Funds Control Implementation Project Manager, at x4-7050.

Tracy Parlate
Financial Manager, Code 400.1

(GOES Continued from page 9)

Overarching Responsibilities

- NOAA is responsible for the success of the GOES-R mission and implementation of the program
- NOAA will lead development of and approve acquisition strategies, approaches, and RFP documentation per the FAR, and DOC and NOAA acquisition rules and regulations
- NASA will manage the day-to-day acquisition of the GOES-R system and is responsible for the successful implementation of the GOES-R flight project including the development of the telemetry and commanding system
- NASA is responsible for identifying and managing advanced research activities including technology development (both space and ground) and Pre-Planned Product Improvement (P^{3I}) planning and the transition of future evolutionary and new systems applications / algorithms.

There is much more defined in the document. In addition to establishing whose rules are to be followed for various activities; GSFC rules for technical, QA, and safety activities, NOAA rules for business, procurement, and programmatics, the document also discusses staffing arrangements. The key positions are defined as:

NOAA provides	NASA provides
System Program Director (SPD) (aka Program Manager)	Deputy SPD for Tech Infusion
Deputy System Program Director	Flight Project Manager
Program Scientist	Flight Project DPMR
Program Systems Manager	Project Scientist
Contracting Officer	Observatory Manager
OPS Project Manager	Systems Manager
Deputy Flight Project Manager	Systems Assurance Manager
	Deputy OPS Project Manager
	Instrument Contracting Officers

The rest of the staffing, with the exception of some of the business positions which are reserved for NOAA, is to be filled with the “best available” personnel – whether NASA or NOAA. The expectation is that existing GOES-R Project personnel, both NASA and NOAA, will continue to fill the roles which they currently support, but with two projects and a program office to staff, there are bound to be opportunities for new personnel.

CURRENT STATUS

GOES-R is progressing well. The proposals for the Program Definition & Risk Reduction (PDRR) phase (study phase for the spacecraft & ground system) are due as you read this article (May 2005). The plan is to award up to three contracts which, including all options, will run

(GOES Continued on page 13)

(GOES Continued from page 12)

for 22 months for $30M each. The single prime contract for implementation (aka Acquisition & Operations (A&O) in NOAA terminology) will be a separate procurement that is planned to be awarded in July 2007.

NOAA just released the advertisement for the GOES-R System Program Director (SPD) job. That advertisement will stay open until June 27th. Once the SPD position is filled, the plan is to fill the remaining management positions.

Nearly all GOES-R instruments are under some type of contract at this time:

ABI - Advanced Baseline Imager, is in implementation – under contract to ITT

HES - Hyperspectral Environmental Suite, is in formulation – contracts awarded to Ball, BAE, and ITT

SIS - Solar Imaging Suite, is in formulation – under single contract to LMATC

SEISS - Space Environment In-Situ Suite, is in formulation – contracts awarded to LMATC and ATC

GLM - Geostationary Lightning Mapper, RFP for formulation is prepared – awaiting approval to release

The plan is to have GOES-R ready for launch in September 2012. Seven years seems far away, but as we all know, it will get here sooner than we want it to. With a little luck and a lot of hard work, we'll be writing an article discussing our launch plans while someone else is writing one that discusses the next generation of GOES → GOES V/W/X/Y.

Mike Donnelly, GOES-R Project Manager

Code 417

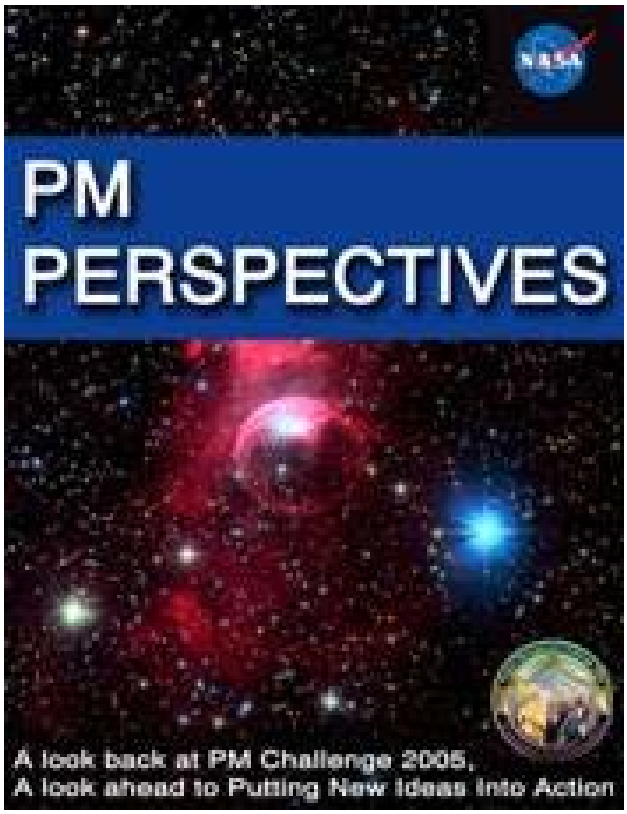
(FeedBack Continued from page 3)

and Ground Operations Working Group (GOWG) meetings have been scheduled and Badging and Safety Training presentations have been presented to payload teams planning on processing their payload here in the near future.

- Weekend closure of KSC Gate #2 located on State Road #3 is taking place as a "trial run". All weekend workers must use Gate #1 at entry to Cape Canaveral Air Force Station or State Road #405 on KSC for access to the Center during this period. This is another example of tightened security.
- Gary Morse is the new MILA (Merritt Island Launch Area) Tracking Station Director. He replaces Tony Ippolito who recently retired. Mr. Morse will also oversee the NASA tracking station at Ponce De Leon Inlet known as PDL. PDL is a substation on MILA located 35 miles north of KSC and critical for communications during the Space Shuttle's second minute of flight. From 1981 – 2000 Gary was the networks director for the Space Shuttle at Goddard Space Flight Center. MILA is still part of GSFC Flight Tracking and Data Network. MILA is the primary communications link to Mission Control in Houston until slightly more than seven minutes into flight, when the Tracking and Data Relay Satellite (TDRS) system takes over.

Mary Halverstadt

More than 800 people gathered at the Conference Center on the University of Maryland College Park campus for NASA's Project Management Challenge 2005, a two-day conference filled with speakers, panels, and exhibitors featuring some of the best ideas and products relating to project management. This conference brought to the forefront the evolving discipline of project management and the group of people who are as vital to mission success as are NASA's talented scientists and engineers, project managers, and practioners - the individuals who pull it all together and make NASA's extraordinary achievements possible.



The conference featured 125 outstanding speakers from NASA and other government agencies, private industry, and academia, who engaged their audiences with their innovative and forward-thinking ideas. Eleven tracks of small-group discussions and panels interacted with more intimate groups, allowing animated debate among the speakers and between the speakers and audience. Thirty seven exhibitors displayed and demonstrated their products while making useful contacts. Making it all possible were fifty committee members who handled the logistics, registration, and materials and who so ably kept the tracks running smoothly.

With 800 people attending, outside the sessions the atmosphere was decidedly social. At the luncheons and evening reception, around the snack tables and exhibitors' displays, colleagues who had not seen each other for years greeted each other and new acquaintances were made. Attendees came from all the NASA Centers, as well as from industry partners, students, and academia.

Read about the conference in "PM Perspectives" a new web based magazine <http://pmperspectives.gsfc.nasa.gov/>http://pmperspectives.gsfc.nasa.gov . Please join us in

(PMC Continued on page 15)

(PMC Continued from page 14)

Galveston for PM Challenge 2006 next March. Check our conference website <http://pmchallenge.gsfc.nasa.gov/>http://pmchallenge.gsfc.nasa.gov later this summer for more information about the conference. Our call for participation will describe more about our tracks, topics and speakers. Meanwhile, think about new ideas in program and project management and how to put them into action to further enhance mission success at NASA. Whether you are a conference attendee, speaker, panelist or exhibitor, your contributions and participation in the PM Challenge conferences are valued and greatly appreciated. See you in March (2006)!

Walt Majerowicz, Code 490
Judy Rumerman/JR Publications

THE CRITICAL PATH SOCIAL NEWS

Congratulations:

Best wishes to Erica & Steve Padgett SGT/403 on the birth of their daughter on April 2, 2005. Haven Fay Padgett weighed in at 7 lbs 2 ozs. Good luck with your new baby girl.

Cathy Richardson, the GOES-R (417) SIS & SEISS Instrument Manager gave birth to her first son on April 24th—Kyle Matthew. He was 7lbs, 8oz. The family is doing fine.

Technology Corner

Integrated Design Capability (IDC)

The NASA Integrated Design Capability (IDC) consists of two collaborative, concurrent, real-time, rapid design engineering environments. Skilled Goddard engineers working with Investigator Teams (e.g., scientists, proposal/project managers, engineers, etc.) produce space mission and/or remote sensing instrument design concepts. Our activities take place in the Integrated Mission Design Center (IMDC) and the Instrument Synthesis & Analysis Laboratory (ISAL). Since 1997, the IMDC has performed over 200 mission studies. Since 1999, the ISAL has performed nearly 100 instrument studies.

Our design centers tailor a study session to fit a Customer's specific needs. Our services, though emphasizing the early life cycle phases (e.g., pre-formulation and formulation), do readily support the follow-on life cycle phases through mission decommissioning. We support requirements definition and/or refinement, spaceflight design concept development, technology assessments and infusion, risk management, and trade study execution.

Examples of recent IDC activities for the Flight Programs and Projects Directorate (FPPD) include:

- A series of mission design studies for the Constellation X Project Office (Code 494) supporting the assessment of alternative Constellation X architectures.
- A mission design study for the HST Project Office (Code 440) supporting the technical evaluation and costing of a Robotic Servicing Deorbit Module concept.
- A mission design study for the Robotic Lunar Exploration Program Office (Code 430) supporting the assessment of potential architectures for the second planned lunar mission.
- A mission design study for the Explorers Program Office (Code 410) to assess spacecraft performance trades to aid in mitigating cost risk.
- A mission design study for the Earth Science Formulation Office (Code 420.2) and the Customer Commitment Office (Code 451), sponsored by the Space Operations and Science Mission Directorates at NASA Headquarters, supporting the assessment of space laser communication architectures.
- An instrument design study for a NPOESS/Landsat Data Continuity Team (Code 420/614) to assess the feasibility of flying an operational land imager on the NPOESS bus.

Sample IDC deliverables include mass/power/data rate/cost rack ups, mechanical CAD files and images, access to space recommendations, data transport options, mission operations approaches, supporting engineering analysis, trades, and models, grass roots and parametric cost estimations, and identification of technology needs, issues and risks.

To obtain additional information on the IDC or to discuss the scheduling of an IDC study, please contact Ms. Ellen Herring, the IDC Operations Manager, at 301-286-7393, via email at Ellen.L.Herring@nasa.gov, or visit the IDC web page at http://idconline.gsfc.nasa.gov/.

Ellen Herring, IDC Operations Manager
Code 500

Technology Corner

Goddard Scientists Study Innovative Use of a Prometheus Spacecraft

Scientists believe that asteroids — sometimes referred to as minor planets — are the remaining building materials in the Solar System's formation. Although some asteroids have orbits that pass between the Earth and Mars, tens of thousands of these large solid bodies reside in the main asteroid belt between Mars and Jupiter. A long-duration space science mission to study these unique objects would greatly enhance the understanding of our Solar System and its formation as well as any resources or risks these objects may present. The only practical way to achieve such a mission would be to fly a Project Prometheus nuclear reactor-powered spacecraft.

One basic characteristic of a nuclear reactor is an abundance of neutrons in the core to keep the reaction going. Here on Earth at research reactors, we use some of surplus neutrons to perform a very powerful analytical process called Prompt Gamma ray Activation Analysis (PGAA). The idea behind PGAA is to bleed off neutrons from the neutron-rich core into a long collimating beam line. The sample material is placed in the beam and the resulting characteristic gamma rays, produced by neutron capture, are analyzed to determine the elemental abundance of the sample. There is no technical roadblock to performing PGAA in a similar manner while using a Prometheus-type spacecraft reactor.

A team, made up of Sam Floyd, John Keller, and Jason Dworkin (all from Code 691) of the Goddard Space Flight Center, and David Mildner of the National Institute of Standards and Technology (NIST), have developed a conceptual design for a PGAA instrument that could go onboard a reactor-powered spacecraft flying in formation approximately 2 kilometers above an asteroid's surface.

From this safe distance, analysis of the surface and bulk materials would be made quickly and with high spatial resolution. The team named its instrument "Chiron." In Greek mythology, the Centaur Chiron liberated Prometheus from his bounds atop the Caucasus Mountains. This instrument would be ideal for missions to near-Earth asteroids, main belt asteroids, comets, and Kuiper Belt objects. Small moons, such Phobos and Deimos, also represent possible targets.

With financial support from the Director's Discretionary Fund in 2004, tests are on going at NIST's research reactor and computer modeling of an asteroid mission at the University of Maryland. The empirical data and modeling results will determine how much signal could be expected from such an experiment. Chiron has attracted much interest and the National Academy of Science, Standing Committee on Planetary and Lunar Exploration, highlighted Chiron as an innovative idea enabled by Project Prometheus.

Sam Floyd, Code 691

NEBA

The NASA Employees Benefit Association (NEBA) is an employee operated association established in 1952 that exists for the sole purpose of providing low cost, high quality life insurance for you, the NASA employee or military detailee. Since NEBA is a not-for-profit organization which is self-funded and is controlled by your fellow NASA employees, you receive the maximum amount of coverage for your premium dollar.

NEBA, which pre-dates the Federal government's own Federal Employees Group Life Insurance (FEGLI) program, has almost 7000 NASA employees currently enrolled. Each year NEBA pays almost $1.5 million dollars to the beneficiaries of NASA employees. The NEBA Board of Directors recently announced the selection of Metropolitan Life (MetLife) as the new life insurance carrier for the NEBA plan, effective May 1, 2005. This was accomplished to improve the quality of benefits and service available to NEBA members. Concurrently, all administrative efforts will be assumed by the carrier.

The Board engaged the help of a third party vendor, Hewitt Associates, to assist it through the four-month competition process. A number of highly qualfied carriers submitted proposals. A review team evaluated the proposals and was briefed by the top three candidates, prior to the selection of MetLife.

The design of the plan has been changed to provide NEBA members greater flexibility and numerous additional features. The level of "basic" insurance will equate to your current salary. The earlier plan established "basic" coverage as an amount equal to twice your salary, however, your coverage was limited to $85,000 or $100,000 depending on your age. The new coverage maximum will be $100,000, regardless of your age. In addition, the average cost of insurance for the "basic" plan will be reduced by approximately thirteen percent (13%).

"Optional" coverage is expanded to allow you to purchase up to eight (8) times your salary in ½ multiples to a maximum of $2,000,000. The optional coverage has also been expanded to include an investment option that the NEBA Board of Directors believes many of you will find interesting and valuable. Several other features, including children and spouse coverage, have been enhanced.

As a result of these changes, you may wish to use this opportunity to re-evaluate your life insurance needs and consider the new options through NEBA – especially if your family status has changed since your last insurance election. You have the ability to elect benefits thru NEBA at any time during the year.

NEBA is open to all NASA civil servants. For additional information about the plan, and how to apply, call: (800) 438-6388; or go to the website http://mybenefits.metlife.com, or telephone Khrista White, president, GSFC NEBA chapter on 6-9059.

Public Service Recognition Week

Sponsored by the Public Employees Roundtable at the Council for Excellence in Government, Public Service Recognition week (PSRW) was celebrated May 2-8. PSRW, which has been celebrated the first Monday thru Sunday in May since 1985, is a time set aside each year to honor the men and women who serve America as federal, state and local government employees. Throughout the nation and around the world, public employees use the week to educate citizens about the many ways in which government serves the people, and how government services make life better for all of us.

One way federal agencies joined in the celebration was by participating in the National Mall Event in Washington, DC, from May 5-8. The event featured exhibits from more than 100 government agencies (including NASA) showcasing the innovative and high-quality work of public employees.

"Reflections on Infinity - Hubble's Amazing 15 Years in Space"

Goddard employees attended a special HST symposium on Monday, April 25, in the Building 8 auditorium. This symposium commemorated the anniversary and accomplishments of this great observatory, which was deployed by the space shuttle on April 25, 1990.

The overflow audience heard Center Director Ed Weiler; NASA astronaut John Grunsfeld; author of 2 Hubble history books, Robert Smith; Space Telescope Science Institute's Bruce Margon and Mario Livio; and HST engineer Nzinga Tull.

Code 400 Comings and Goings (December 2004 - April 2005)

Comings:

- Linny Hirshman joins 403/FPPD Business Management Office
- David Funkhouser joins 461/Solar Terrestrial Probes/MMS Project
- Nicole Turner joins 442/HST Development Project
- Kevin Carmack joins 442/HST Development Project
- Michael Comberiate joins 400/Flight Programs and Projects Directorate
- Steve Horowitz joins 420.2/GPM Project
- Michael L. Adams joins 442/HST Development Project
- David Carter joins 453/Ground Network Project
- Diane Hronek joins 428/ESMO Project
- Debbie Sharp joins 405/IFMP Project
- Reginald Eason joins 410/Explorers Program
- Greg Frazier joins 410/Explorers Program
- Joyce Pepe joins 441/HST Operations Project
- William Stabnow joins 407/ESTO Project
- Anthony Loggia joins 452/SN Project

Goings:

- Darrell Zimbelman resigns from 416/GOES-N Project
- Vanessa Griffin from 423/ESDIS Project Office to NASA Headquarters
- James Gavura retires from 452/Space Network Project
- John Martin leaves 451/Customer Commitments to join 592/Systems Engineering Services & Advanced Concepts Branch
- David Mengers retires from 490/Structure and Evolution of the Universe Program
- Tony Ippolito retires from 453/Ground Network Project
- Howard Ottenstein retires from 403/Flight Programs and Projects Business Management Office
- Ralph Welsh retires from 429/NPP Project
- Vicki Britton retires from 429/NPP Project
- Jonathan Bryson from 443/JWST Deputy Project Manager/Resources to 150/Office of the Chief Financial Officer
- Paul McCeney from 451/Customer Commitments to 500
- Barbara Patala from 405/IFMP Project Office to 156/IFMP
- Rick Fitzgerald resigns from 455/MARS Laser Communication Demonstration Project
- Glenn Jackson from 424/AURA Project to Code 550/Instrument Systems and Technology Division
- Joanne Lodowski retires from 454/TDRS Project
- Matt McLaughlin leaves 450/Space Communications for DoD
- Kathy Stoner retires from 415/GOES Program
- Barbara Sweeney retires from 454/TDRS Project

Think They're Great? Nominate!

The 2005 Code 400 Peer Award process is about to start. The call letter will be coming out in early May and nominations will be accepted from May 2 until close of business on June 10. The Winners will be announced at the Peer Award Ceremony and Picnic being held at the Goddard Recreation Center on September 7. Anyone who works in or for Code 400 is eligible (except for last year's winners). Details are available on the Flight Programs and Projects website at http://fpd.gsfc.nasa.gov/. Click Peer Awards on the navigation bar. The categories are the same as in years past: Boundless Energy, Mission Impossible, Steady Helm, Rookie of the Year, Unsung Hero, Wild Card, Honoring Diversity, and Mentoring (Under your Wing).

Quotes of the Quarter

"Only two things are infinite, the universe and human stupidity, and I'm not sure about the former."
- Albert Einstein (1879—1955) -

"On my arrival in the United States I was struck by the degree of ability among the governed and the lack of it among the governing."
- Alexis de Tocqueville (1805—1859) -

"I learned that a leader is a man who has the ability to get other people to do what they don't want to do, and like it."
- Harry S. Truman (1884—1972) -

"It is not enough to be busy; so are the ants. The question is, what are we busy about?"
- Henry David Thoreau (1817— 1862) -

Project Management Development Emprise (PMDE)

After a two year break, the PMDE Advisory Board has opted to request applicants to compete for the next PMDE class. Vacancy Announcements for both Technical and Professional Administrative have been posted for four weeks on the OHR web site, between April 20 and May 18, 2005. Interested applicants who might have missed this window might check the web site to see if the time period has been extended, as occurred for the most recent class.

PMDE is a developmental program established by Center management in 1989 for the purpose of providing select technical and professional administrative employees the work experience, training, guidance, and direction necessary for them to assume key management positions in the Center's Flight Programs and Projects Directorate (FPPD). For more information, please contact Howard Ottenstein at 6-8583.

PMDE Graduation Day

February 3, 2005 was an important day in the lives of four individuals in Code 400's PMDE program. Indeed it was graduation day for Helen Sullivan, Tony Cazeau, Otilia Rodriguez-Alvarez, and Jane Langan. With their graduation, PMDE now has only twelve active participants, one of the reasons that the program now seeks applicants (see story above) for its next class. There have been eight PMDE classes including the initial one selected in 1990.

Overseeing PMDE is an Advisory Board composed of: Rick Obenschain (Chairman); George Morrow; George Barth; Peg Luce; Dorothy Tiffany; Greg Smith, and Marc Fontaine.

Pictured with Director Of Code 400 Rick Obenschain, from left to right, are graduates Helen Sullivan, Tony Cazeau, and Otilia Rodriguez-Alvarez. Jane Langan was unable to attend

"Cultural Tidbits"

Did you know … that the phrase, "Forgetta 'bout it", is used to mean a variety of things? The contributor of this quarter's cultural tidbit, John Loiacono, explains:

My family is from the lower east side of Manhattan. I was born there and my grandparents owned the neighborhood Italian grocery store (it's now a restaurant) across the street (125 E4th Street). Growing up (my formative years were spent in Northern New Jersey), there was a somewhat universal phrase that had different meanings depending on how it was said. The phrase is: Forgetta 'bout it (FBI). Here are the different uses:

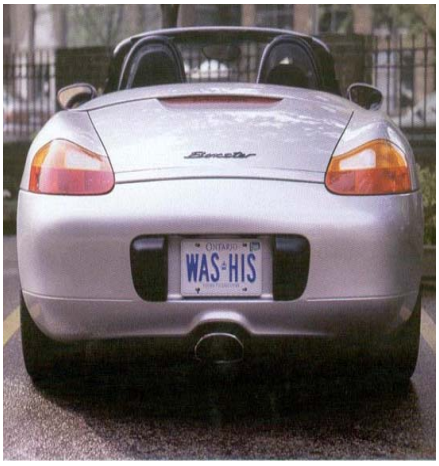
* A response meaning "you're welcome." As in, "thanks," response: "FBI."
* A response meaning "no thank you." As in, "can I do this for you?" Response: "FBI."
* A response having the literal meaning. As in, "what should I do?" Response: "FBI."
* Can be used to indicate defiance. As in, "I asked you to do this and you were like FBI."
* Can be used to indicate you are emphatic about not doing something. As in, "they wanted me to hang around and I was like 'FBI'." Or, something more appropriate for GSFC: "they wanted me to modify my POP submittal and I was like 'FBI'."

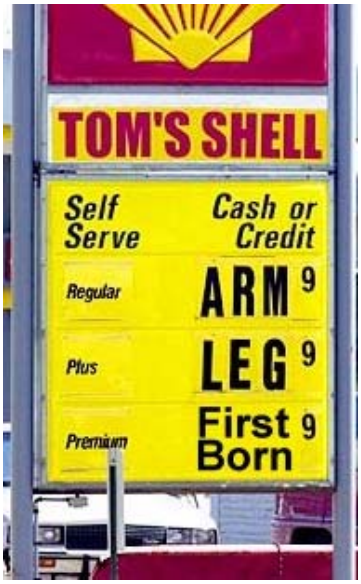
Do you have a cultural tidbit to share? Send it to the Code 400 Diversity Council c/o Andrea Razzaghi @ andrea.i.razzaghi@nasa.gov and we'll publish it in a future issue.

Andrea Razzaghi, Code 410 (Code 400 Diversity Council)

Editor's Humor

(From Canada)





Courtesy Mitch Hobisch

FUTURE LAUNCHES CALENDAR YEAR 2005	
NOAA-N	MAY
GOES N	JUNE
ASTRO-E2	JUNE
TWINS-A	JULY
CALIPSO	JULY
CLOUDSAT	JULY
CINDI	SEPT

ATTENTION INTERNET BROWSERS:

We're on the WEB
http://fpd.gsfc.nasa.gov/news.html
Or via the New "Code 400" Homepage
http://fpd.gsfc.nasa.gov

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If you have a story idea, news item, or letter for The Critical Path, please let us know about it. Send your note to Howard Ottenstein via Email: hottenst@pop400.gsfc.nasa.gov, Mail: Code 403, or Phone: 6-8583. Don't forget to include your name and telephone number. Deadline for the next issue is July 29, 2005.