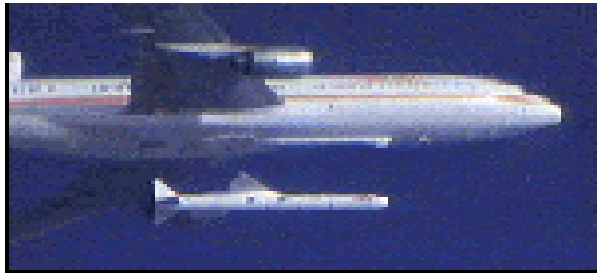
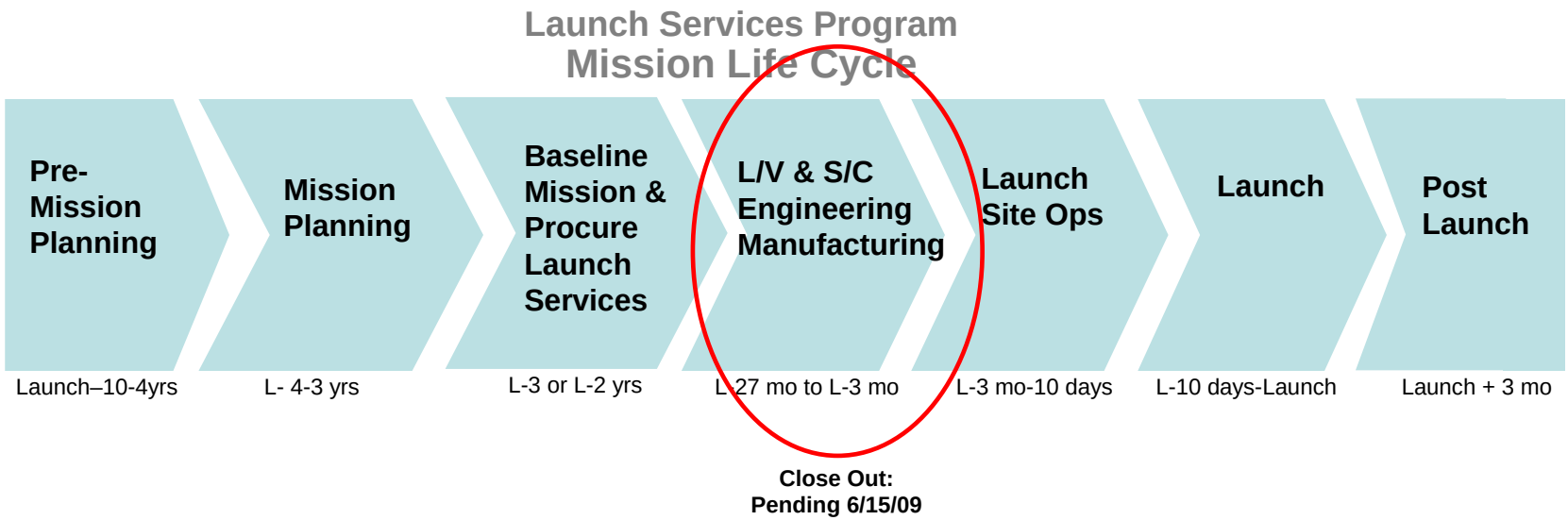


Pardon the Interruption Meeting May 2008

MSL

Launch Date: 9/15/09



John F. Kennedy Space Center

MSL Project Summary

LAUNCH SERVICES PROGRAM

Mission	MSL
Launch Date	2009/09/15
Launch Vehicle	Atlas V
Launch Period Window	TBR/Time/Instant./dual daily
PPF	PHSF

OVERALL MISSION	Mar	Apr	May
	R	R	R

MISSION MANAGEMENT	Mar	Apr	May
Observatory Status	Y	G	Y
Manifest/Range	G	G	G
Integrated Schedule	G	G	G
ICD	G	G	G
CDRLs (S/C & LSC)	Y	Y	G

LAUNCH SITE	Mar	Apr	May
LSSP	G	G	G
Customer Inputs	G	G	G
PPF	G	G	G
Launch Site Unique	G	G	G
Spacecraft OPS	0	0	0

SAFETY & MISSION ASSURANCE	Mar	Apr	May
Mission Assurance	Y	Y	Y
Safety	G	G	G
Quality	Y	Y	G
Reliability	G	G	G

ENGINEERING			
Launch Vehicle	R	R	R
Mission Specific	Y	Y	Y
Certification	G	G	G
Mission Analysis	Y	Y	Y
ERS/ERB	Y	Y	Y
Launch PAD/GSE	R	R	R
Mission Unique IV&V	N/A	N/A	0

COMM & TELEMETRY			
Communications	G	G	G
Telemetry	0	0	0

BUSINESS			
Budget	G	G	G
Contracts	G	G	G

NUCLEAR			
Launch Approval	G	G	G
LV Data Books	G	G	G
Security	G	G	G
Radiation Safety	G	G	G
Facility	G	G	G

DOWNRANGE TELEMETRY			
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

LEGEND	
Proceeding on Plan	G
Area of Concern	Y
Significant Problem	R
Not Evaluated	0
Not Applicable	N/A

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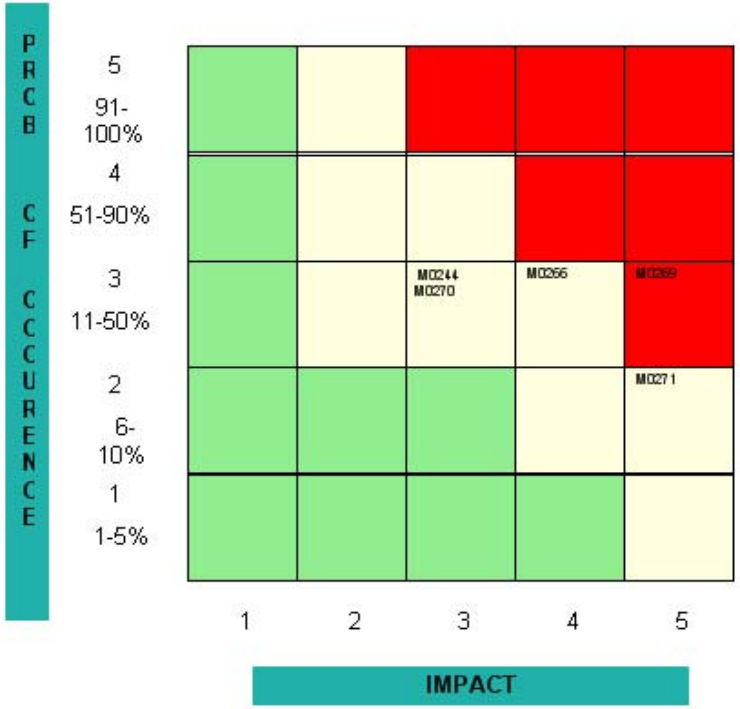
MSL - Open/Accepted Risks

		Condition
RYG Trend	RiskID	Consequence
0	M0244	MSL mass growth has significantly decreased launch vehicle performance margins which are used to provide MSL with launch opportunity days and finite launch windows.
		Increased probability of degraded daily launch window and launch period durations for the MSL 2009 launch opportunity.
0	M0269	Lower Environmental Control System mission unique design has 50% margins at PDR timeframe.
		Inability to provide cooling for the MMRTG would delay mission.
0	M0266	MSL spacecraft GN2 and battery cooling requirements remain undefined.
		LV engineering products and implementation may not meet milestones, or costs may be very high.
0	M0271	Firm critical ECS power supply fault tolerance requirements are not defined.
		Range Safety may require extensive GSE modifications which would delay MSL mission.
0	M0270	MSL target specification delivery may be late.
		Atlas trajectory design may be delayed.



MSL - Actions / Issues / Concerns

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	0	Additional requirements not captured in LSTO are resulting in unplanned task order. Items include: spacecraft 28v power, additional lightning suppression assembly requirements that are out of scope of original proposal.	WI	3/1/07	
Engineering	0	RP Tank Long Term Redesign	ERS-06-305	7/01/07	4/1/08
Business	0	ULA has begun to request extensions to the normal 30 day turnaround time for proposals on almost every Statement Of Work, with varying rationale. It appears that this is becoming the norm rather than a trend. The extensions may begin to affect schedule if they continue (GN2 SOW).	WI	11/30/2007	01/31/2008
Overall Mission	0	MSL battery capacity and time from launch to eclipse exit may impact launch window and the ability to recycle	WI	02/15/2008	

MSL - Significant Events

Accomplished	
Initial target specification document delivered to ULA for CPWSR #2. An update is required due to late changes in the entry velocity at Mars. This will result in a subsequent delay in receipt of the final results.	02/01/2008-04/30/2008
Spacecraft break-up data inputs continue to be delayed. Final received and transmitted to ULA on 3/25/08.	01/01/2008-03/31/2008
MSL SIR Part 2 will be held at JPL April 22-24, 2008.	04/22/2008-04/24/2008
MSL Trailblazer was completed on May 7-8. Lessons learned meeting held May 9. Objectives for JPL, KSC, and ULA were met. Highly successful Trailblazer.	05/01/2008-05/09/2008

Planned	
Spacecraft mass is currently at 4071 kg per Project documentation in March 2008. Working with Project to define maximum mass threshold.	09/15/2006-05/30/2008
A MUPDR reconvene is required due to inadequate requirements definition in several areas at MUPDR. MUPDR reconvene will occur is TBD.	09/13/2007-07/31/2008
Telecon to discuss JPL waiver to perform random vibe completed on April 14, 2008. Working to close out final set of ULA and KSC questions regarding JPL plan.	04/14/2008-06/30/2008
MSL verification matrix TIM to be held June 5 in Denver in preparation for ICD being available for signature on June 30.	06/30/2008-06/30/2008
Spacecraft informed KSC of a significant requirements change in the GN2 Purge and Battery Cooling requirements. Telecons in work to determine new implementation and impact to schedule. Will further dealy MUPDR reconvene as issue is resolved.	05/01/2008-05/30/2008

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MSL BOSS Schedule

LSP-F-330.02 Basic

5/13/08

WBS	Name	Resp.	2006	2007	2008	2009
	LV & SC Engineering & Manufacturing Phase (~L-27 months to ~L-3 months)		6/6			9/15
	START PHASE		6/29			
4.3.1	ATP the Mission & Secure Funding	PIM	6/29			
4.3.2	Hold MIWG Kickoff Meeting	MM	8/2			
4.3.3	Manage ICD Development	MM	6/29		6/30	
4.3.4	CDRL Input & Approval	MM	6/29		6/15	
4.3.5	MU Requirements Review	LV		3/12		
4.3.6	Launch Vehicle Design Review (PDR & CDR)	LV		9/11	3/13 7/1(Tent)	
4.3.7	LV Mfg	LV\MM			MUPDR Reconvene 9/1	7/6
4.3.8	"LV Contractor Internal MRR (e.g., MRB or VSTR)"	LV\TM				7/1
4.3.9	Define SC Testing	SC\TM		12/1		12/8
4.3.11	S/C Testing	SC\TM		12/1		1/1
4.3.12	Provide S/C CDRL Input	SC\TM	7/30			8/1
4.3.13	Develop Launch Site Operations Plan	SC\LSIM		3/2		3/2
4.3.14	S/C Final MSPSP	SC\SMA				3/2
4.3.15	Develop Launch Site Procedures	SC\LSIM			2/1	9/15
4.3.16	CDRL Review	TM	9/1			9/1
4.3.18	Publish Preliminary Launch Site Support Plan	LSIM			7/15	
4.3.19	"Exercise all TA's, NSS, Mods to contract to meet needs"	PIM		6/15		6/15
4.3.21	PRD/OR	LSIM			8/11	
4.3.22	Review LV Mission Unique MSPSP	SMA				6/15 7/15

TM = Technical Management	HQ = NASA HQ & Mission Directorate	LD = Launch Director	LSP = LSP Mgmt
LSIM = Launch Site Integration Manager	LSTO = LSTO (Mini Source Board)	LV = Launch Vehicle Contractor	MM = Mission Manager
PIM = Program Integration Manager	SC = Spacecraft Project	SMA = Safety & Mission Assurance	

MSL BOSS Schedule

LSP-F-330.02 Basic

5/13/08

WBS	Name	Resp.	2006	2007	2008	2009
4.3.23	Mission Support Analysis	TM	1/1			8/11
4.3.24	Verify ICD	TM			7/1	9/1
4.3.25	HAR/MSR equivalent	LV				3/1 8/15
4.3.26	Develop LV/SC & Integrated LS Procedures	LV\TM				5/1 8/15
4.3.27	LV Components arrives at Launch Site	LV\VSE				7/6
4.3.28	Publish Baseline LSSP	LSIM				1/15
4.3.29	GOWG	LSIM	10/4	4/1 7/18 11/7		
4.3.30	Prepare PPF & services for GSE/SC arrival	LSIM				2/15 4/15
4.3.31	Comm & Telemetry Reviews	LSIM	6/29			6/15
4.3.32	Review S/C Final MSPSP	SMA				4/1 5/15
4.3.33	GOR	LSIM				3/15
4.3.35	Track Milestone Payments	PIM		6/15		6/15
4.3.36	Procure Deployable & Fixed Telemetry Assets	PIM		6/15		6/15
4.3.37	Begin Access Badging & Training	LSIM				3/15
4.3.38	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev, Des Rev, Qual)"	TM	3/12			8/1
4.3.39	Payload-LV Fitcheck	TM			11/8	
4.3.40	MIWG	MM	1/30	4/11 7/17	1/15	
4.3.41	Safety TIMs PSWG	SMA	6/6	4/5 11/7	2/20	
4.3.42	S/C PreShip Review	SC\LSIM				4/5
4.3.43	S/C Ships	SC\LSIM				4/10
4.3.44	Phase Close-Out	MM				6/15

TM = Technical Management	HQ = NASA HQ & Mission Directorate	LD = Launch Director	LSP = LSP Mgmt
LSIM = Launch Site Integration Manager	LSTO = LSTO (Mini Source Board)	LV = Launch Vehicle Contractor	MM = Mission Manager
PIM = Program Integration Manager	SC = Spacecraft Project	SMA = Safety & Mission Assurance	

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MSL Mission Management

Tammy Harrington

LAUNCH SERVICES PROGRAM

Mission	MSL
Launch Date	2009/09/15
Orbit Requirement	C3: 23-11 (max/min) km/sec^2
Launch Vehicle Class	Atlas V
Launch Period Window	TBR/Time/Instant./dual daily
PPF	PHSF
Mass (kg)	4000kg
PAD	SLC 41

	Mar	Apr	May
ICD	G	G	G

There are no signed SCNs	There are no SCNs in Review

Observatory Status

	Mar	Apr	May
Observatory Status	Y	G	Y
Schedule	Y	G	Y
Budget	G	G	G
Deliverables	Y	G	0
Testing	0	0	0
ATLO	0	0	0
Instrument	0	0	0

Launch Vehicle Status

Integrated Schedule	G	G	G
CDRLs (S/C & LSC)	Y	Y	G
Manifest/Range	G	G	G
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

Mission Center:	JPL
Program:	Mars
PM	Richard Cooke
LVI	Dave Woerner/Jim Colvin
MM	Tammy Harrington
IE	Jim Behling
LSIM	John Hueckel
PIM	Harold Coleman
MAM	Laura McDaniel
MCE	Marty Lougheed
MTE	Rolando Nieves

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MSL - Engineering

Jim Behling

	Mar	Apr	May
Launch Vehicle	R	R	R
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	N/A	N/A	0
Payload Attach Fitting	G	G	G
Other	N/A	N/A	0
Mission Specific	Y	Y	Y
Certification	G	G	G
Mission Analysis	Y	Y	Y
ERS/ERB	Y	Y	Y
Launch PAD/GSE	R	R	R
Mission Unique IV&V	N/A	N/A	0

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
Lower PLF ECS
Access Platforms
VIF Level 5 Structural Support
Clean Enclosures
GN2 Purge Upgrades
Aeroshell ECS

MISSION UNIQUE STUDIES (IF APPLICABLE)
There are none.

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MSL - Mission ERB Status

Jim Behling

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
0	05-354	MSL IRD Review	☑	☐	☑	☐	☐	☑	☑	☑
0	06-370	MSL Mission Unique Requirements Review	☑	☐	☑	☐	☐	☐	☐	☐
0	06-371	MSL Mission Peculiar Design Review	☑	☐	☐	☑	☐	☐	☐	☐
0	06-372	MSL Mission Unique PDR	☑	☐	☑	☐	☐	☐	☐	☐
0	06-373	MSL Mission Unique CDR	☑	☐	☐	☑	☐	☐	☐	☐

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MSL - Vehicle ERB Status

Jim Behling

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
0	06-305	RP Tank Long Term Redesign	☑	☐	☑	☐	☐	☐	☐	☐
0	ERS-07-265	First Flight of Basotect/MA100 foam FAP	☐	☑	☐	☐	☑	☐	☐	☐

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MSL - Launch Site

John Hueckel

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
LSSP	G	G	G

LSSP	Planned	Released
Preliminary	09/15/2008	N/A
Baseline	03/16/2009	03/14/2008

	Mar	Apr	May
CUSTOMER INPUTS	G	G	G

DELIVERABLES	Mar	Apr	May
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Mar	Apr	May
LAUNCH SITE UNIQUE	G	G	G
Planetary Protection Verification laboratory	G	G	G
PPF	G	G	G
Trailer for Spin operations	G	G	G
Spacecraft OPS	0	0	0

MSL Budget Breakdown

Harold Coleman

The launch service budget includes:

* **Launch Services**
  - Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.
* **Mission Uniques**
  - Requirements necessary to customize basic vehicle hardware to met unique s/c driven requirements.
  - Other services directly attributable to the mission.
  - Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.
* **Integrated Services**
  - LSP contractor support service (ELVIS, CAPPS, JBOSC, KICs, etc).
  - USAF range costs attributable to the mission
  - Limited flexibility
* **Payload Processing Facility**
  - Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
  - Commercial facility: all other missions have been directed to process in a commercial facility;
  - Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.
* **Telemetry**
  - Assets required to meet minimum launch vehicle telemetry requirements.
  - Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
  - Limited flexibility requirements are often set late in the integration cycle.
* **Fly Out**
  - Costs that each mission in the 19-Pack must incur.
  - Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
  - Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
  - Pad Sustainability costs for SLC-2 and SLC-17.
  - No flexibility-contract costs
* **Nuclear**
  - RTG/RHU processing
  - RTG/RHU databooks and approval
  - Limited flexibility
* **Reimbursable**
  - Reimbursable FC for transportation, labor, and CMO.
* **Mission Flexibility**
  - Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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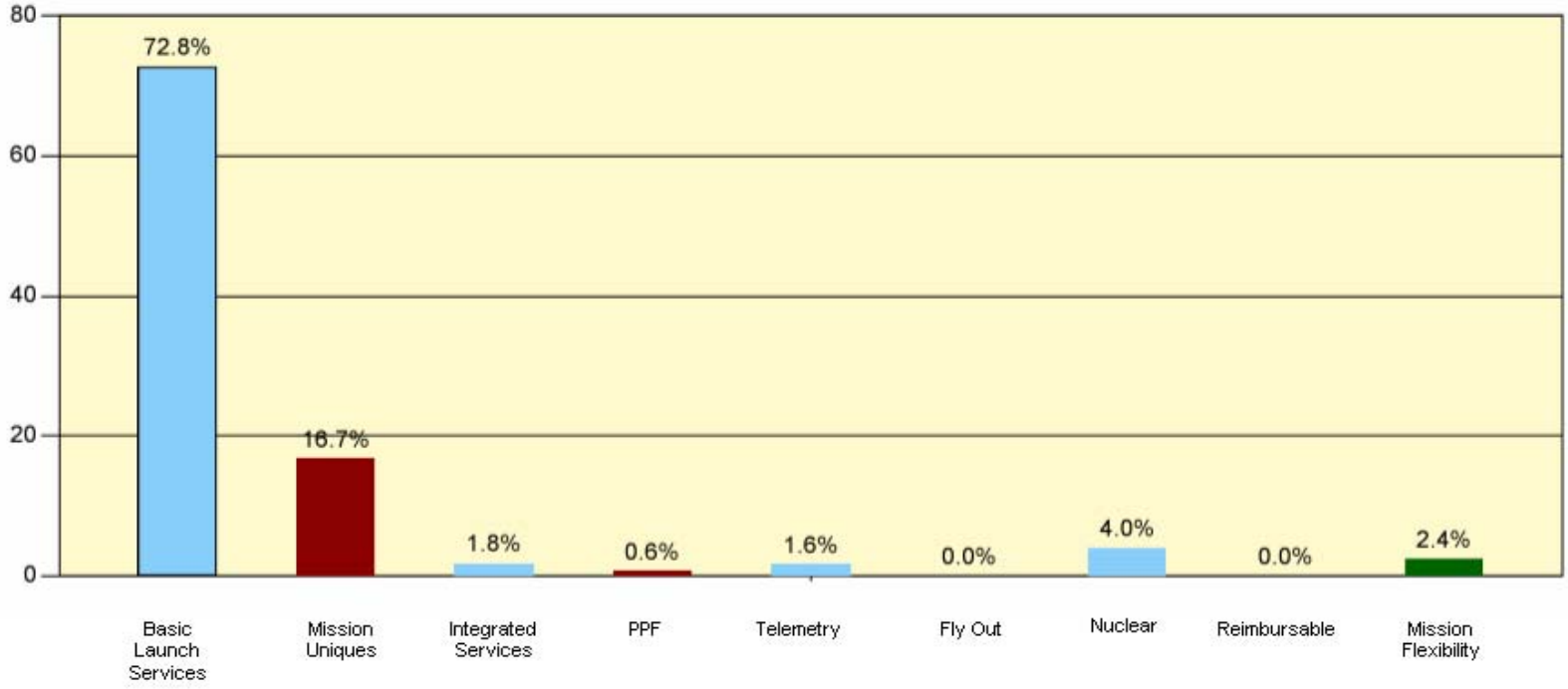
Launch Services Budget Breakdown

MSL Mission

Harold Coleman

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 5 / 2008



No flexibility; cost are fixed

Limited Flexibility depending on spacecraft requirements

Flexible portion of budget

Notes:

Variance: Budget requirements have been refined, and upward/downward adjustments to several Mission Uniques liens resulted in slight decrease in Mission Flexibility, from 2.5% to 2.4%.

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MSL - Business

Harold Coleman

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
Budget	G	G	G
Contracts	G	G	G

Milestone	Date
Milestone 1	06/30/06
Milestone 2	09/20/06
Milestone 3	04/02/07
Milestone 4	07/24/2007
Milestone 5	10/11/2007
Milestone 6	01/16/08
Milestone 7	02/19/08
Milestone 8	10/01/2008
Milestone 9	11/15/2008
Milestone 10	02/15/09
Milestone 11	05/01/09
Milestone 12	09/15/09

Open Milestone Payment

Paid Milestone

Contract Status

Launch Services		
Contract Mod	Number	Description
	NLSL-083	ATP Mission
	NLSL-091	S/C Mass & Backup Launch opportunity revisions, ATP of Mission Unique Services: 3- Interleaved Telemetry, 11- Mission Unique Flight Design and Analyses, 12 - External Access Platforms, 13 - VIF Level 5 Structural Support & Platform configuration, 14 - CI
	NLSL-094	ATP of Mission Uniqu Services 8.0 - Diode Assemblies & 9.0 - Enhanced PLA Cleaning & UV Inspection
	NLSL-098	3% Volume Buy Discount Application
	NLSL-120	Payment schedule and adjust the milestone completion criteria for the MSL Mission CLIN 7.

There are no LD Contract Mods

Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-199	Pre-ATP Trajectory	Cancelled	
	NLSL-053	Pre-ATP Trajectory	4/1/06	4/24/06
	NLSL-054	AV NEPA & Launch Approval SAR Databook support	12/22/2006	1/18/07
	NLSL-060	MUS 11 Pre-Authorization	12/31/2006	2/12/07
	NLSL-073	Separation Pointing Accuracy Evaluation	5/30/07	6/28/07
	NLSL-074	PDLC Interface Data Output Requests	4/30/07	05/16/2007
	NLSL-079	Early Integrated Thermal Analysis	10/31/2007	11/26/2007
	NLSL-080	28 Volt Power	07/30/2008	
	NLSL-081	Final Design Load Cycle (FDLC) Interface Data Output Requests	11/30/2007	12/03/2007
	NLSL-083	PECS As Backup to VIF ECS Feasibility Assessment	12/15/2007	02/15/2008
	NLSL-086	LC41 Environmental Control System (ECS) GN2 System Redundancy Addition Feasibility Assessment	02/15/2008	03/17/2008
	NLSL-090	5M PLF Planetary Protection Materials and Processing Assessment for the MSL MIssion	05/30/2008	
	NLSL-091	GN2 Instrument Purge and Battery Cooling Service Study for the MSL Mission.	05/31/2008	
	NLSL-092	Additional Lightning Suppression Assembly (LSA) and LSA Jumpers	09/30/2008	
	NLSL-093	5m PLF Fairing Acoustic Protection (FAP) Vibration Test Bioassay Sampling Proposal Preparation	02/21/2008	03/06/2008
	NLSL-097	Modifications to +X Payload Fairing Door Mock-Up.	05/30/2008	

There are no PPF Contract Mods

There are no Other Contract Mods

	Issues
0	This mission is designated as planetary and is subject to equitable adjustment, therefore grace days do not apply.

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MSL - Safety and Mission Assurance

Laura McDaniel

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status: Complete	Status: In Work	Evidence of Completion	Mar	Apr	May
Quality				Y	Y	G
Software / Hardware Problems	☐	☑	No issues	Y	Y	G
Alerts	☐	☑	No issues	G	G	G
Audits/Inspections/Surveillances	☐	☑	No issues or concerns	G	G	G
Limited Life Items	☐	☑	No issues	G	G	G
Reliability				G	G	G
FMEA	☐	☑	No significant issues.	G	G	G
Reliability Assessments	☐	☑	No significant issues.	G	G	G
Safety				G	G	G
Requirements Definitions	☐	☑	Tailoring in work.	G	G	G
Range Safety & Mission Flight Rules	☐	☑	No significant issues.	G	G	G
Licenses/Use Authorizations	☐	☑	No significant issues.	G	G	G
Safety Documentation	☐	☑	No issues at this time.	G	G	G
Non-compliances	☐	☑	No issues at this time.	G	G	G
Contingency Planning	☐	☑	No significant issues.	G	G	G
Mission Assurance				Y	Y	Y
Lessons Learned	☐	☑	No significant issues.	G	G	G
First Flight/Mission Unique items	☐	☑	Multiple mission unique items needing review.	G	G	G
Test/Qualification/Certification	☐	☑	No significant issues	G	G	G
Mission Assurance Assessments	☐	☑	FIV/OIV replacement (AV-09 FIV anomaly) issues.	Y	Y	Y
Risk Management	☐	☑	No significant issues.	G	G	G

MSL Comm & Telemetry

Marty Lougheed and Rolando Nieves

	Mar	Apr	May
Communications	G	G	G
Voice Comm	0	0	0
Data Comm	0	0	0
Networks	0	0	0
Video Comm	0	0	0
Timing	0	0	0
RF Comm	0	0	0
LSSP Comm Annex	0	0	0

	Mar	Apr	May
Telemetry	0	0	0
Decommutation Tables	0	0	0
Data Integrity Test	0	0	0
Software Lockdown	0	0	0
Software Inventory	0	0	0
Console Configuration	0	0	0
Console Checkout	0	0	0

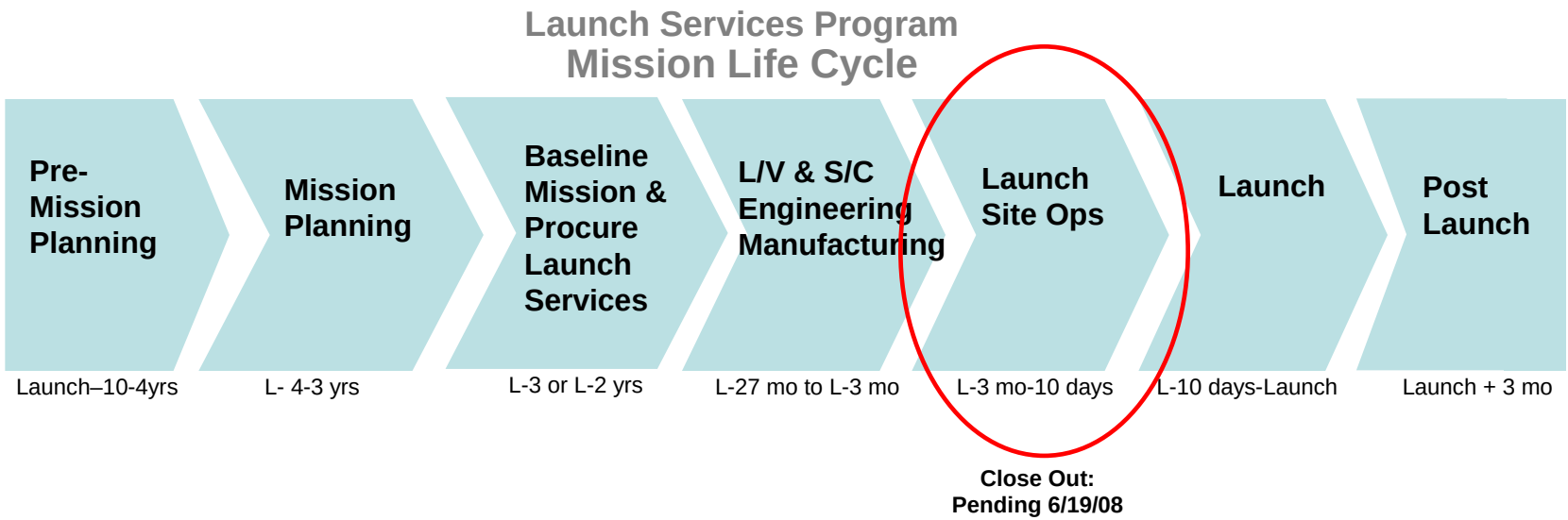
MSL Nuclear

John Giles

	Mar	Apr	May
Launch Approval	G	G	G
LV Data Books	G	G	G
Security	G	G	G
Radiation Safety	G	G	G
Facility	G	G	G

OSTM

Launch Date: 6/15/08



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OSTM Project Summary

LAUNCH SERVICES PROGRAM

Mission	OSTM
Launch Date	2008/06/15
Launch Vehicle	Delta II
Launch Period Window	
PPF	Commercial PPF

	Mar	Apr	May
OVERALL MISSION	G	R	R

MISSION MANAGEMENT	Mar	Apr	May
Observatory Status	G	G	G
Manifest/Range	G	G	G
Integrated Schedule	G	G	G
ICD	G	G	G
CDRLs (S/C & LSC)	G	G	G

LAUNCH SITE	Mar	Apr	May
LSSP	G	G	G
Customer Inputs	G	G	G
PPF	G	G	G
Launch Site Unique	G	G	G
Spacecraft OPS	G	G	G

SAFETY & MISSION ASSURANCE	Mar	Apr	May
Mission Assurance	Y	Y	Y
Safety	G	G	G
Quality	Y	Y	Y
Reliability	G	G	G

ENGINEERING			
Launch Vehicle	G	R	R
Mission Specific	G	G	G
Certification	N/A	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

COMM & TELEMETRY			
Communications	G	G	G
Telemetry	0	0	0

BUSINESS			
Budget	G	G	G
Contracts	G	G	G

DOWNRANGE TELEMETRY			
Ground Stations	G	G	G
Deployables	G	G	N/A
P-3/OTTR	N/A	G	G

LEGEND	
Proceeding on Plan	G
Area of Concern	Y
Significant Problem	R
Not Evaluated	0
Not Applicable	N/A

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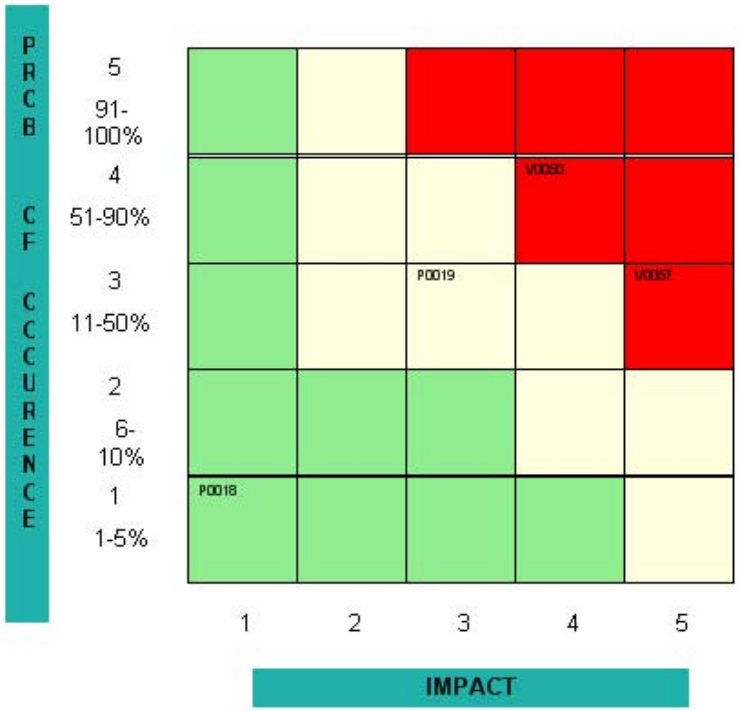
OSTM - Open/Accepted Risks

		Condition
RYG Trend	RiskID	Consequence
G	V0050	Dawn experienced a significant delay very late in the hardware production process that delayed the launch readiness date. The same contributing causes exist for other NASA missions. In addition, ULA just in time delivery approach provides little margin to hardware need dates.
		Possible delay of other NASA missions.
Y	P0019	USAF must fly out 4 Delta II GPS by the end of FY 2008 to avoid USAF Program impacts.
		NASA FPB Manifest dates may be required to move to provide GPS priority.
Y	P0018	Traditional DMCO testing on DI vehicles will be eliminated
		Elimination of DMCO testing will not allow for capturing hardware failures off-pad, and thus introduce potential for on pad schedule delays
R	V0057	During Accelerated Age Testing on 09/28/07, a Gas Generator Thin Layer Explosive end tip failed to produce an output.
		Failure of the GG-TLX to produce an output will cause all ground ignited GEMs to remain attached to the launch vehicle resulting in mission failure.



OSTM - Actions / Issues / Concerns

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	R	OSTM mission requires the use of the Ordnance Arming Device (OAD). The GG TLX assembly that actuates the OAD has had a test failure. NASA LSP ERB recommended not to use the current GG TLX lot on any NASA Mission. ULA is requesting a Range waiver to allow use of the Detonator Block assembly.	WI		04/25/2008
Engineering	R	Acceptability of GG TLX line on OAD system.			

OSTM - Significant Events

Accomplished	
CCR written to change the configuration of the launch vehicle from a 7320-9.5 to a 7320-10.	
Range Concept Briefing	05/18/05
CLA data delivered to S/C	
S/C PDR	Nov-2005
Boeing performed the Quick CLA to determine loads on S/C with 10 Ft fairing.	
Preliminary Isolation system design	
Kick off MIWG	06/29/06
ATP	Mar-2006
Study(TA) on load alleviation systems	
RFP to take Isolation system to PDR	
Satellite CDR	10/24/06-10/24/2006
MIWG/GOWG at JPL	11/16/2006-Nov. 2006
SoftRide Isolation System PDR	02/8/2007-2/8/2007
Meeting with CEO ofiice to present Softride System for OSTM	11/21/2006-11/21/2006
MIWG/GOWG	02/21/2007-02/22/2007
Isolation System Phase II Turn on	3/23/07-4/3/07
OSTM Spacecraft Load Isolation System PDR & ERB	02/08/2007-02/08/2007
ICD ERB	4/8/07-4/8/07
ICD ERB Peer Review with Integration Group completed.	04/04/2007-04/04/2007
Softride system - Component Level CDR (KSC ERB held in conjunction with the CDR / ERS-07-142)	5/15/07-05/15/2007

Planned	
OSTM Weighing	05/26/2008-05/28/2008
OSTM Mate to PAF/Load Isolation System	05/28/2008-05/29/2008
OSTM spacecraft transport to SLC-2W	06/02/2008-06/03/2008
OSTM Spacecraft fueling at PPF	05/12/2008-05/17/2008

Softride Component Level CDR - Action Items Responses (ERB Reconvene) prior to start of QUal Test Program.	06/05/2007-06/05/2007
OSTM 3715 PAF HAR at Astrium, England	07/11/2007-07/13/2007
OSTM MIWG & GOWG @ Alcatel, France	08/30/2007-09/02/2007
OSTM Separation shock Tests at Alcatel, France	08/27/2007-08/29/2007
Softride System- Isolators Qualification Testing at CSA	06/26/2007-07/21/2007
Softride - System Level CDR @ HB (LSP ERB in conjunction) - ERB completed partialy. A recontinue is scheduled for August 21.	08/09/2007-08/21/2007
OSTM Vibration Testing at Alcatel, France . Accomplshed successfully	08/28/2007-08/13/2007
ICD Signed off.	06/14/2007-9/02/07
Payload to Blockhouse Wiring Diagram reviewed by LSP team and comments provided to ULA. Updated version in work	06/08/2007-06/18/2007
RF Hazard Analysis Review complete. Errors found in the analysis due to conservative assumptions. ULA is updating the analysis.	06/05/2007-06/18/2007
Preliminary Mission Analysis Input reviewed and submitted to ULA.	04/10/2007-04/16/2007
Preliminary Mission Analysis results expected July 13.	07/13/2007-9/02/07
Payload Separation Analysis- Initial Memo expected June 15.	06/15/2007-07/21/2007
OSTM Fit Check at Alcatel, France	10/08/2007-10/12/2007
OSTM Softride Isolator Hardware Acceptance Review at CSA Engineering	09/26/2007-10/02/2007
Spacecraft Mass Simulator Tap Test and Model Correlation	11/01/2007-11/20/2007
OSTM Softride Isolation System Dynamic Testing At Huntington Beach	11/05/2007-12/21/2007
OSTM Softride Isolation System Shock Attenuation Testing at HB	12/03/2007-12/21/2007

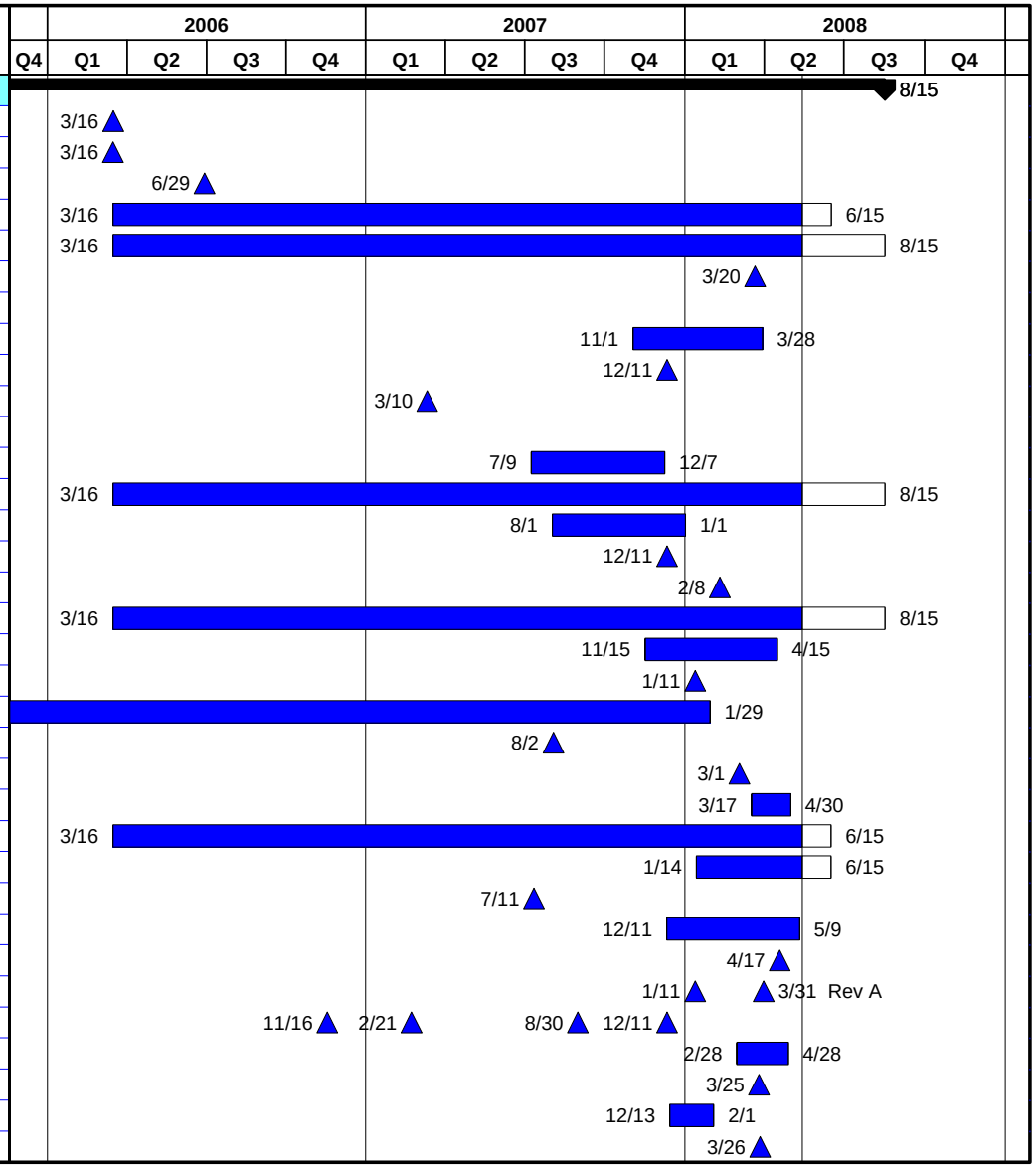
OSTM GOWG at VAFB	12/11/2007-12/13/2007
OSTM MIWG AT VAFB	12/13/2007-12/13/2007
S/C Thermal Model Developed by JPL and Converted to Required Format BY NASA LSP	11/20/2007-12/04/2007
S/C Thermal Model Delevered to ULA	12/05/2007-12/05/2007
OSTM Spacecraft Qualification Review at Thales Alenia, Cannes FR	03/10/2008-03/15/2008
OSTM Isolation System integration to flight payload attach fitting (PAF)	01/24/2008-01/30/2008
OSTM Isolation System and PAF shippment from HB to VAFB	02/22/2008-02/28/2008
OSTM Spacecraft Ship from Thales Alenia, Cannes FR to VAFB	04/17/2008-04/29/2008
OSTM MIWG Meeting at KSC	02/28/2008-02/28/2008
OSTM Load Isolation System - Design Certification Review (DCR) at ULA, Denver	03/28/2008-04/11/2008
OSTM PAF/Load Isolation System fitcheck with DMA	03/03/2008-03/07/2008
ULA Mission Analysis Review (Denver)	04/03/2008-04/04/2008
Ground Operation Review (VAFB)	03/26/2008-03/27/2008
OSTM Pre-Vehicle on Stand Review	04/15/2008-04/16/2008
NASA's Launch Vehicle Readiness Review	05/05/2008-05/05/2008

BOSS OSTM Schedule

LSP-F-330.02 Basic

5/13/08

WBS	Name	Resp.
	LV & SC Eng & Mfg Phase (~L-27 mths to ~L-3 mths)	
	START PHASE	
4.3.1	ATP the Mission & Secure Funding	PIM
4.3.2	Hold MIWG Kickoff Meeting	MM
4.3.3	Manage ICD Development	MM
4.3.4	CDRL Input & Approval	MM
4.3.5	MU Requirements Review	LV
4.3.6	Launch Vehicle Design Review (PDR & CDR)	LV
4.3.7	LV Mfg	LV
4.3.8	"LV Contractor Internal MRR (e.g., MRB or VSTR)"	LV
4.3.9	Define SC Testing	SC
4.3.10	SIR	SC
4.3.11	S/C Testing	SC
4.3.12	Provide S/C CDRL Input	SC
4.3.13	Develop Launch Site Operations Plan	SC
4.3.14	S/C Final MSPSP	SC
4.3.15	Develop Launch Site Procedures	SC
4.3.16	CDRL Review	TM
4.3.17	Mission Unique IV&V	TM
4.3.18	Publish Preliminary Launch Site Support Plan	LSIM
4.3.19	"Exercise all TA's, NSS, Mods to contract to meet needs"	PIM
4.3.20	Procure PPF via Payload Process Task Order	PIM
4.3.21	Release PRD/OR to WR	LSIM
4.3.22	Review LV Mission Unique MSPSP	SMA
4.3.23	Mission Support Analysis	TM
4.3.24	Verify ICD	TM
4.3.25	HAR/MSR equivalent	LV
4.3.26	Develop LV/SC & Integrated LS Procedures	LV
4.3.27	LV Components arrives at Launch Site	LV
4.3.28	Publish Baseline LSSP	LSIM
4.3.29	GOWG	LSIM
4.3.30	Prepare PPF & services for GSE/SC arrival	LSIM
4.3.31	Comm & Telemetry Reviews	LSIM
4.3.32	Review S/C Final MSPSP	SMA
4.3.33	GOR	LSIM



TM = Technical Management
HQ = NASA HQ & Mission Directorate
LD = Launch Director
LSP = LSP Mgmt
LSIM = Launch Site Integration Manager
LSTO = LSTO (Mini Source Board)
LV = Launch Vehicle Contractor
MM = Mission Manager
PIM = Program Integration Manager
SC = Spacecraft Project
SMA = Safety & Mission Assurance

BOSS OSTM Schedule

LSP-F-330.02 Basic

5/13/08

WBS	Name	Resp.	2006 Q4	2006 Q1	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2	2008 Q3	2008 Q4
4.3.34	Process Launch Delays as needed	PIM													
4.3.35	Track Milestone Payments	PIM		3/15									6/15		
4.3.36	Procure Deployable & Fixed Telemetry Assets	PIM										1/15	5/1		
4.3.37	Begin Access Badging & Training	LSIM										3/26			
4.3.38	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev,	TM				9/16							6/15		
4.3.39	Payload-LV Fitcheck	TM								10/11					
4.3.40	MIWG	MM				11/16		2/21		8/30	12/11	2/28			
4.3.41	Safety TIMS PSWG	SMA						2/21		8/30	12/11				
4.3.42	S/C PreShip Review	SC										4/14			
4.3.43	S/C Ships	SC										4/29			
4.3.44	Phase Close-Out	MM										4/17			
	Launch Site Operations (~L-3 months to ~L-10 days)											**4/1**	**6/22**		
	START PHASE											4/17			
5.3.1	Erect LV Review (e.g. Pre-Vos)	LV										4/15			
5.3.2	"S/C, GSE & Personnel arrive"	SC										4/29			
5.3.3	Process S/C	SC										4/29	6/15		
5.3.4	Launch Vehicle Readiness Review (LVRR)	LSP										5/5			
5.3.5	Manage PPF	LSIM										4/29	6/22		
5.3.6	"Process PPF, mods, changes, and delays"	PIM													
5.3.7	Interface with Range & Contractors	LSIM										4/1	6/15		
5.3.8	LV Orbital Debris Assessment (ODA) (LV&SC)	TM													
5.3.9	SMSR	SMA										5/28			
5.3.10	Mishap Preparedness & Contingency Plan	SMA													
5.3.11	SC Mission Readiness Review	HQ										5/15			
5.3.12	Review Final Analysis and ICD Verification Matrix	TM													
5.3.13	SC Mate Readiness Review	SC										5/15			
5.3.14	SC ORR	SC													
5.3.15	Vehicle Pad Operations/ Process LV	LV										4/16	6/15		
5.3.16	SC/LV Premate Review	LV										5/30			
5.3.17	Exercise LS Providers TA's & NSS	PIM													
5.3.18	Integrated Technical Meeting (ITM)	LD										5/15	6/15		
5.3.19	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev,	MM													
5.3.20	Define Mission Success Criteria	TM													
5.3.21	Phase Close-Out	MM											6/19		

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PIM = Program Integration Manager
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SMA = Safety & Mission Assurance

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OSTM Mission Management

Armando Piloto

LAUNCH SERVICES PROGRAM

Mission	OSTM
Launch Date	2008/06/15
Orbit Requirement	1336 km polar, 66 degree incl.
Launch Vehicle Class	Delta II
Launch Period Window	
PPF	Commercial PPF
Mass (kg)	505.3 kg.
PAD	SLC-2

	Mar	Apr	May
ICD	G	G	G

Observatory Status	Mar	Apr	May
Observatory Status	G	G	G
Schedule	G	G	G
Budget	G	G	G
Deliverables	G	G	G
Testing	G	G	G
ATLO	G	G	G
Instrument	G	G	G

Launch Vehicle Status			
Integrated Schedule	G	G	G
CDRLs (S/C & LSC)	G	G	G
Manifest/Range	G	G	G
Ground Stations	G	G	G
Deployables	G	G	N/A
P-3/OTTR	N/A	G	G

Mission Center:	JPL
Program:	
PM	Parag Vase
LVI	Mike Gallagher
MM	Armando Piloto
IE	Thomas Frattin
LSIM	Julie Schneringer
PIM	Walner Thervil
MAM	Craig Schreiber
MCE	Robert McEntire
MTE	Alex Biamonte

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SIGNED SCNS:		SCNS IN REVIEW	
SCN #	DATE SIGNED	SCN #	DATE SIGNED
001	03/06/2008	018	
002	04/14/2008		
003	04/14/2008		
005	03/06/2008		
006	05/02/2008		
007	03/06/2008		
008	03/06/2008		
009	04/22/2008		
010	03/06/2008		
011	04/15/2008		
012	05/12/2008		
013	04/22/2008		
014	05/12/2008		
015	04/15/2008		
016	05/12/2008		
017	05/12/2008		

OSTM - Engineering

Thomas Frattin

	Mar	Apr	May
Launch Vehicle	G	R	R
Payload Fairing	G	G	G
First Stage	G	G	R
Second Stage	G	G	G
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	G	G	G
Other	N/A	N/A	N/A
Mission Specific	G	G	G
Certification	N/A	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	70
VERIFIED TO DATE	14

LAUNCH PAD / GSE MODS (IF APPLICABLE)
There are none.

MISSION UNIQUE STUDIES (IF APPLICABLE)
Spacecraft Thermal Analysis
Payload Fairing Venting Analysis

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OSTM - Mission ERB Status

Thomas Frattin

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
G	ERB-06-330	OSTM Soft Ride System- System Level PDR	☑	☐	☑	☐	☐	☑	☑	☑
G	ERB-07-142	OSTM Softride System- Component Level CDR	☑	☐	☑	☐	☐	☑	☑	☑
G	ERB-07-73	OSTM ICD ERB	☑	☐	☑	☐	☐	☑	☑	☑
G	ERB-07-181	OSTM Load Isolation System-CDR	☑	☐	☑	☐	☐	☑	☑	☑
G	ERS-08-030	OSTM Load Isolation System - Design Certification Review (DCR)	☑	☐	☑	☐	☐	☑	☐	☐

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OSTM - Vehicle ERB Status

Thomas Frattin

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
G	06-284	Delta II Alenia Tank FM-21(OSTM) Circumferential/Boss Weld Defects	☑	☐	☑	☐	☐	☑	☑	☐
G	07-308	Delta II GG TLX Output Failure (OAD)	☑	☐	☑	☐	☐	☑	☑	☑
G	07-02	Delta II 2nd Stage Propellant Tank Design and Process Revisions (Clickbonds)	☑	☐	☑	☐	☐	☑	☑	☑

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OSTM - Launch Site

Julie Schneringer

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
LSSP	G	G	G

LSSP	Planned	Released
Preliminary	03/15/2007	05/18/2007
Baseline	12/12/2007	12/12/2007

	Mar	Apr	May
CUSTOMER INPUTS	G	G	G

DELIVERABLES	Mar	Apr	May
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Mar	Apr	May
LAUNCH SITE UNIQUE	G	G	G
Foreign National Escorts	G	G	G
European Power Supplies/UPS	G	G	G
PPF	G	G	G
Commerical PPF	G	G	G
PPF TAA	G	G	G
Spacecraft OPS	G	G	G
Fueling	G	G	G

OSTM Budget Breakdown

Walner Thervil

The launch service budget includes:

* **Launch Services**
  - Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.
* **Mission Uniques**
  - Requirements necessary to customize basic vehicle hardware to meet unique s/c driven requirements.
  - Other services directly attributable to the mission.
  - Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.
* **Integrated Services**
  - LSP contractor support service (ELVIS, CAPPS, JBOSC, KICs, etc).
  - USAF range costs attributable to the mission
  - Limited flexibility
* **Payload Processing Facility**
  - Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
  - Commercial facility: all other missions have been directed to process in a commercial facility.
  - Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.
* **Telemetry**
  - Assets required to meet minimum launch vehicle telemetry requirements.
  - Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
  - Limited flexibility requirements are often set late in the integration cycle.
* **Fly Out**
  - Costs that each mission in the 19-Pack must incur.
  - Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
  - Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
  - Pad Sustainability costs for SLC-2 and SLC-17.
  - No flexibility-contract costs
* **Nuclear**
  - RTG/RHU processing
  - RTG/RHU databooks and approval
  - Limited flexibility
* **Reimbursable**
  - Reimbursable FC for transportation, labor, and CMO.
* **Mission Flexibility**
  - Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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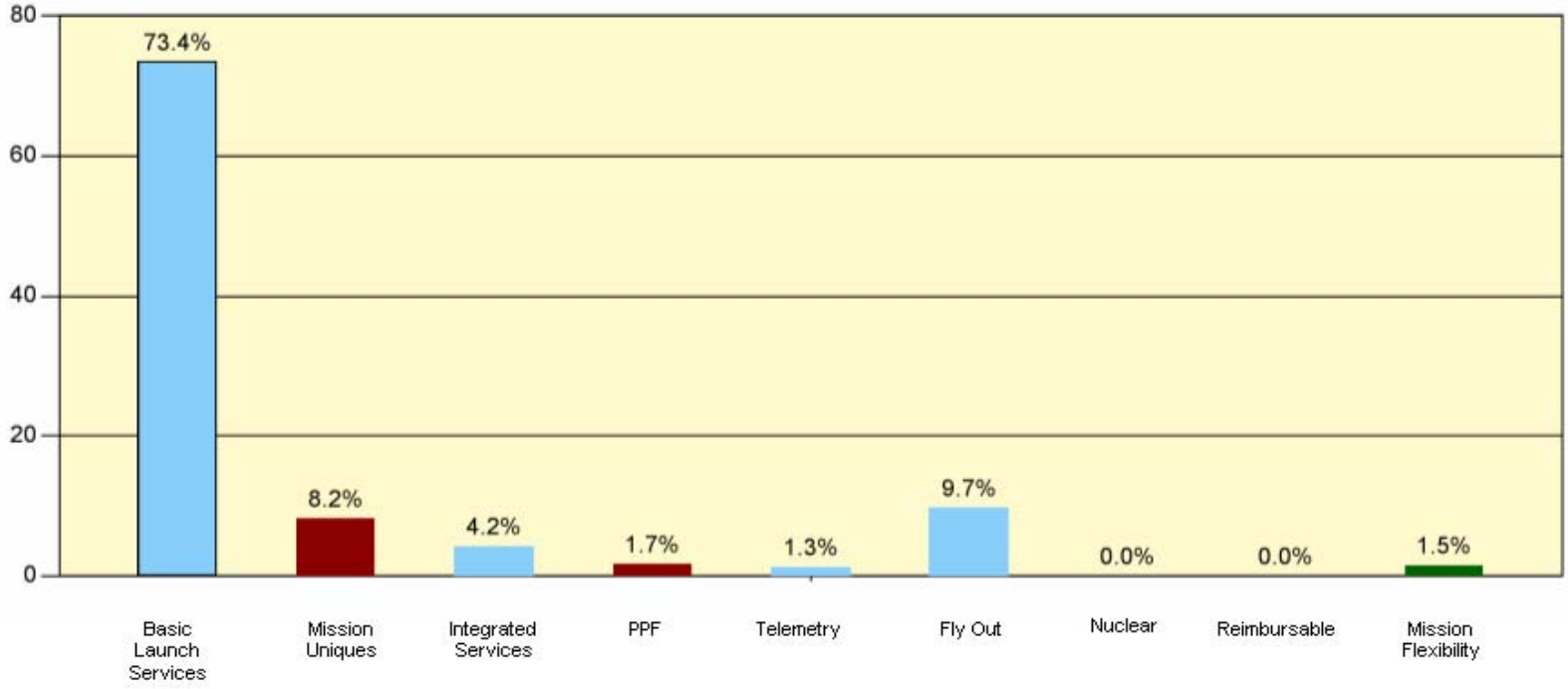
Launch Services Budget Breakdown

OSTM Mission

Walner Thervil

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 5 / 2008



- No flexibility; cost are fixed
- Limited Flexibility depending on spacecraft requirements
- Flexible portion of budget

Notes:

Variance: Mission Flexibility remains the same from last quarter. Was 2.0% in January 2008.
Note: Above percentages contain dollars associated with the Boeing settlement. Boeing settlement for this mission is $367K.

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OSTM - Business

Walner Thervil

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
Budget	G	G	G
Contracts	G	G	G

Milestone	Date
Milestone #1	3/15/2006
Milestone #2	6/15/2006
Milestone #3	10/30/2006
Milestone #4	2/6/2007
Milestone #5	4/4/2007
Milestone #6	10/03/2007
Milestone #7	9/15/2007
Milestone #8	12/15/2007
Milestone #9	3/15/2008
Milestone #10	6/15/2008

Open Milestone Payment

Paid Milestone

Contract Status

Launch Services		
Contract Mod	Number	Description
	163	NSS 2.1.2 - 9.5ft to 10ft PLF
	175	NSS 20.3.3 Quick Turnaround Coupled Loads
	212	Flyout costs + Mission ATP
	125	Flyout costs
	240	NSS 32.1 FY06 VAFB Launch Site Maintenance
	057	NSS 30.1 Long-lead Mat'l/Adv for NSS 33.2 Mission critical FY03
	050	Original 19-Pack Launch Date 12/31/2006
	307	NSS 10.1 Onboard Camera
	318	NSS 36.1 Telemetry Acquisition Assistance Message and Vehicle Acquisition Message

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Contract Mod	Number	Description		
	287	NSS 35.2 Additional 40 Mission Console Notebooks for VAFB Launches		
Contract Mod (LD)	Number	Description		
	136	Delay from 12/31/06 to 10/1/07		
	159	Launch delay from 10/1/07 to 4/1/08		
	212	Delay from 4/1/08 to 6/15/08		
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-155	OSTM Environments Effort	04/25/2005	09/30/2005
	NLSB-165	Parametric Study for Loads	08/30/2005	07/27/2005
	NLSB-165R1	Parametric Study for Loads	11/10/2005	11/02/2005
	NLSB-177R1	Passive Isolation Sys	01/17/2006	03/15/2006
	NLSB-177R2	Passive Isolation Sys	02/17/2006	03/27/2006
	NLSB-195R2	CLA for Passive Isolation Sys	06/16/2006	07/17/2006
	NLSB-225	MECO Loads Analysis	07/24/2006	09/15/2006
	NLSB-229	Spacer for Isolation System	08/31/2006	09/20/2006
	NLSB-235	Inert DPAF Proposal Prep	04/14/2006	09/11/2006
	NLSB-242	PAF Pre-production review	11/29/2006	11/20/2006
	NLSB-248	Passive Isolation System to PDR (Phase 1)	04/09/2007	06/21/2007
	NLSB-266	Isolation System Engineering Development Unit (EDU) Fabrication	03/28/2007	06/21/2007
	NLSB-272R1	Payload Isolation System Implementation	07/15/2008	
	NLSB-293	OSTM Ground Support Equipment Task Plan Proposal Cost.	06/15/2007	08/13/2007
	NLSB-298	OSTM Payload Attach Fitting and Clampband inspection	08/08/2007	01/07/2008
	NLSB-313	Flight Camera Relocation	07/20/2008	
	NLSB-331	E-packages Enhanced Data Review	05/29/2008	
	NLSB-333	Off-Nominal Flight Analysis due to OAD System Failure	06/01/2008	
Contract Mod (PPF)	Number	Description		
	WCCPP-001	Commercial PPF (TO# NNK07LA87D)		

There are no Other Contract Mods	
	Issues
Y	MIM/PIM to start working Mission Success letter with OSTM. Mission Success Evaluation Criteria draft in the review cycle.
G	Mission has 30 days of grace remaining. The next notification point for potential launch delay is June 4, 2008 (L-11 days) for either Goverment or Contractor .

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OSTM - Safety and Mission Assurance

Craig Schreiber

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status: Complete	Status: In Work	Evidence of Completion	Mar	Apr	May
Quality				Y	Y	Y
Software / Hardware Problems	☐	☑	Continuing to monitor ULA-Boeing's response to Quality Management System risk	Y	Y	Y
Alerts	☐	☑	SMA is tracking no GIDEP issues at this time	G	G	G
Audits/Inspections/Surveillances	☐	☑	SMA Quality is continuing to selectively perform surveillances and audits	G	G	G
Limited Life Items	☐	☑	Lanyard cutter (Lot HST02G001-001) expired 3/31/2006, expect new expiration date with updated drawing release. Delay timer (Lot OAC00F001-001) expired 4/30/2008, six month no test extension pending	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	☐	☑	No issues.	G	G	G
Reliability Assessments	☐	☑	Current number - 0.9268. Further analysis pending	G	G	G
Safety				G	G	G
Requirements Definitions	☐	☑	No issues	G	G	G
Range Safety & Mission Flight Rules	☐	☑	No issues.	G	G	G
Licenses/Use Authorizations	☐	☑	No issues.	G	G	G
Safety Documentation	☐	☑	No issues.	G	G	G
Non-compliances	☐	☑	Potential Waiver/MIC pending for OAD	G	G	G
Contingency Planning	☐	☑	IRT meeting tentatively set for May 21	G	G	G
Mission Assurance				Y	Y	Y
Lessons Learned	☐	☑	No issues.	G	G	G
First Flight/Mission Unique items	☐	☑	Monitoring thirteen 1st flight, two 1st use and four mission unique items. All items evaluated, no concerns.	G	G	G
Test/Qualification/Certification	☐	☑	No issues.	G	G	G
Mission Assurance Assessments	☐	☑	GGTLX/OAD issue	Y	Y	Y
Risk Management	☐	☑	No issues.	G	G	G

OSTM Comm & Telemetry

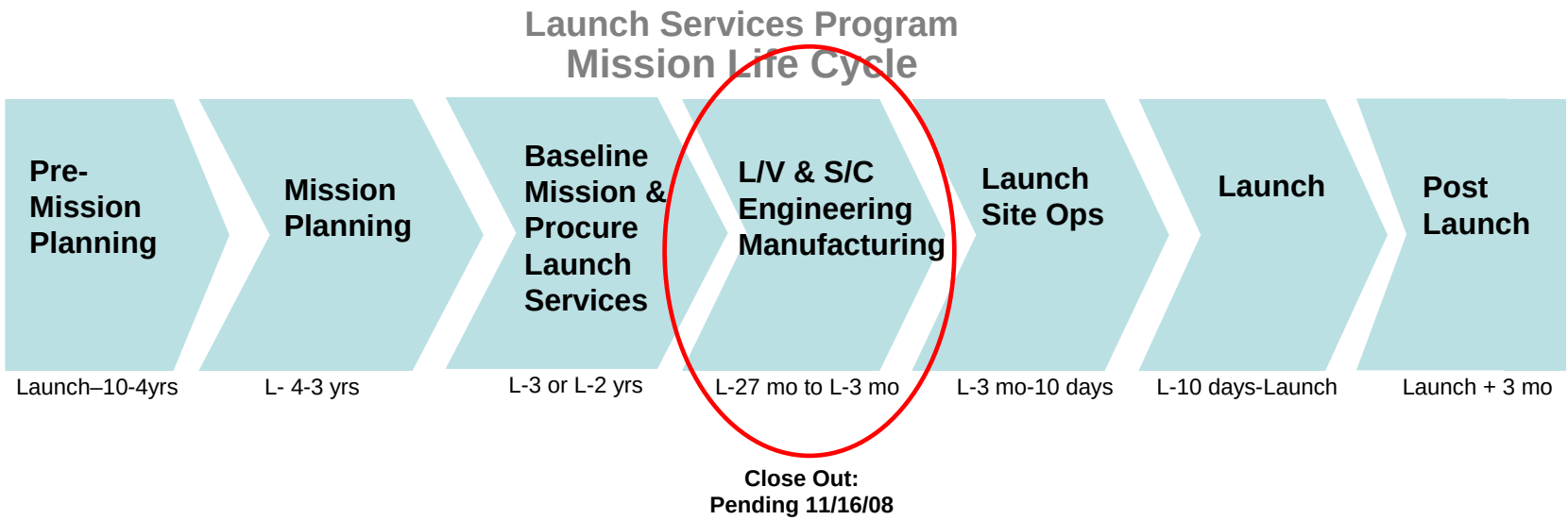
Robert McEntire and Alex Biamonte

	Mar	Apr	May
Communications	G	G	G
Voice Comm	G	G	G
Data Comm	G	G	G
Networks	G	G	G
Video Comm	G	G	G
Timing	G	G	G
RF Comm	G	G	G
LSSP Comm Annex	G	G	G

	Mar	Apr	May
Telemetry	0	0	0
Decommutation Tables	0	0	0
Data Integrity Test	0	0	0
Software Lockdown	0	0	0
Software Inventory	0	0	0
Console Configuration	0	0	0
Console Checkout	0	0	0

Kepler

Launch Date: 2/16/09



John F. Kennedy Space Center

Kepler Project Summary

LAUNCH SERVICES PROGRAM

Mission	Kepler
Launch Date	2009/02/16
Launch Vehicle	Delta II
Launch Period Window	
PPF	Commercial PPF

	Mar	Apr	May
OVERALL MISSION	G	G	G

MISSION MANAGEMENT	Mar	Apr	May
Observatory Status	G	G	G
Manifest/Range	G	G	G
Integrated Schedule	G	G	G
ICD	G	G	G
CDRLs (S/C & LSC)	G	G	G

LAUNCH SITE	Mar	Apr	May
LSSP	G	G	0
Customer Inputs	G	G	0
PPF	G	G	0
Launch Site Unique	G	G	0
Spacecraft OPS	0	0	0

SAFETY & MISSION ASSURANCE	Mar	Apr	May
Mission Assurance	Y	Y	Y
Safety	G	G	G
Quality	Y	Y	Y
Reliability	G	G	G

ENGINEERING			
Launch Vehicle	G	G	0
Mission Specific	G	G	0
Certification	N/A	N/A	0
Mission Analysis	G	G	0
ERS/ERB	G	G	0
Launch PAD/GSE	G	G	0
Mission Unique IV&V	N/A	N/A	0

COMM & TELEMETRY			
Communications	G	G	G
Telemetry	0	0	0

BUSINESS			
Budget	G	G	G
Contracts	G	G	G

DOWNRANGE TELEMETRY			
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

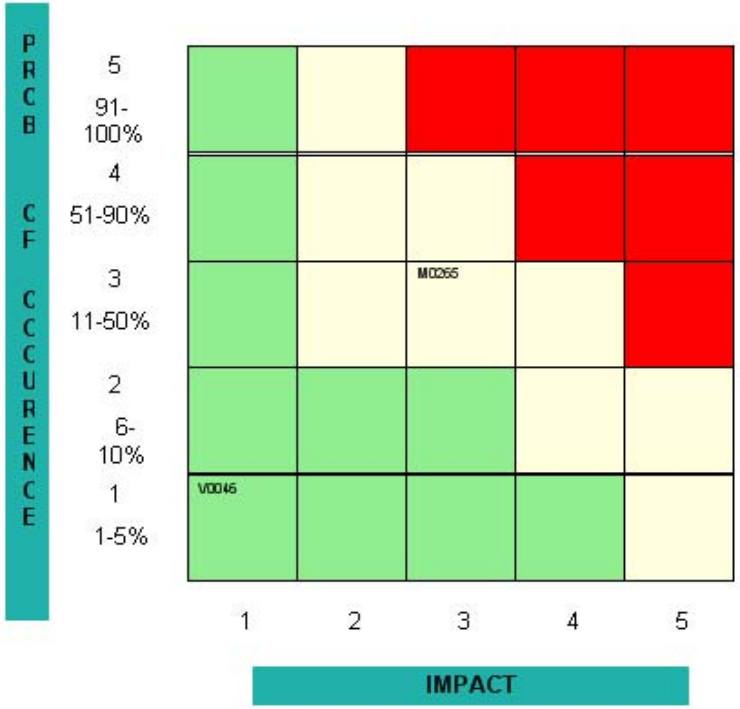
LEGEND

Proceeding on Plan	G
Area of Concern	Y
Significant Problem	R
Not Evaluated	0
Not Applicable	N/A

Sensitive But Unclassified

Kepler - Open/Accepted Risks

		Condition
RYG Trend	RiskID	Consequence
0	V0046	ULA/Boeing does not perform an inspection for microscopic cracks (micro cracks) before providing a spacecraft customer with a Test Payload Attach Fitting (TPAF) or clampband.
		Propagation of a micro crack(s) in the TPAF or clampband during shock or vibration testing could cause damage to the spacecraft.
0	M0265	A signed MOA and Host Tenant Agreement (HTA) for transition of SLC-17 Delta-II assets from Air Force to NASA does not currently exist.
		Without signed MOA and HTA, there will no way to quantify cost of O&M for the Kepler Mission.



Kepler - Actions / Issues / Concerns

There are no Actions.

There are no Issues or Concerns.

Kepler - Significant Events

Accomplished	
TPAF use TA on contract near term	
Received and negotiated TPAF build proposal	
Revised FY06 funding profile to assist project with 2nd Qt shortfall	
Kepler Delta CDR	10/16/06-10/20/06
TA in work to determine Boeing approval of S/C use of "to be negotiated" area below sep plane. Received preliminary approval from Boeing in Aug.	08/01/2006
Boeing support/training for TPAF at Ball facility	10/02/2006-10/11/2006
Provide some of the flight connectors to support Kepler Cable build schedule.	12/15/2006-12/15/2006
Received Kepler FEM to support third CLA analysis and forwarded to Boeing (Contract Mod still in work)	09/11/2006-09/13/2006
S/C to deliver thermal model for ITA, canceled activity	12/22/2006-03/09/2007
MIWG planned for Nov 16	11/16/2006-11/16/2006
GOWG on Jan 19 at Astrotech, titusville	01/18/2007
Delivered updated Kepler IRD	02/05/2007-02/07/2007
planning kick-off MIWG, April 5 in HB	02/08/2007-04/52007
ULA to deliver final set of GSE connectors to S/C	02/01/2007-02/23/2007
Draft ICD released for review	03/31/2007-4/31/2007
S/C delivered IGES files as input to Mission Compatibility. Delivered to LSC	02/14/2007-03/02/2007
MIWG/GOWG at KSC on 23-24 October	08/14/2007-10/25/2007
PMA input	11/26/2007-02/26/2008

There are no items planned

Sensitive But Unclassified

MIWG planned for 19 March 2008	03/19/2008

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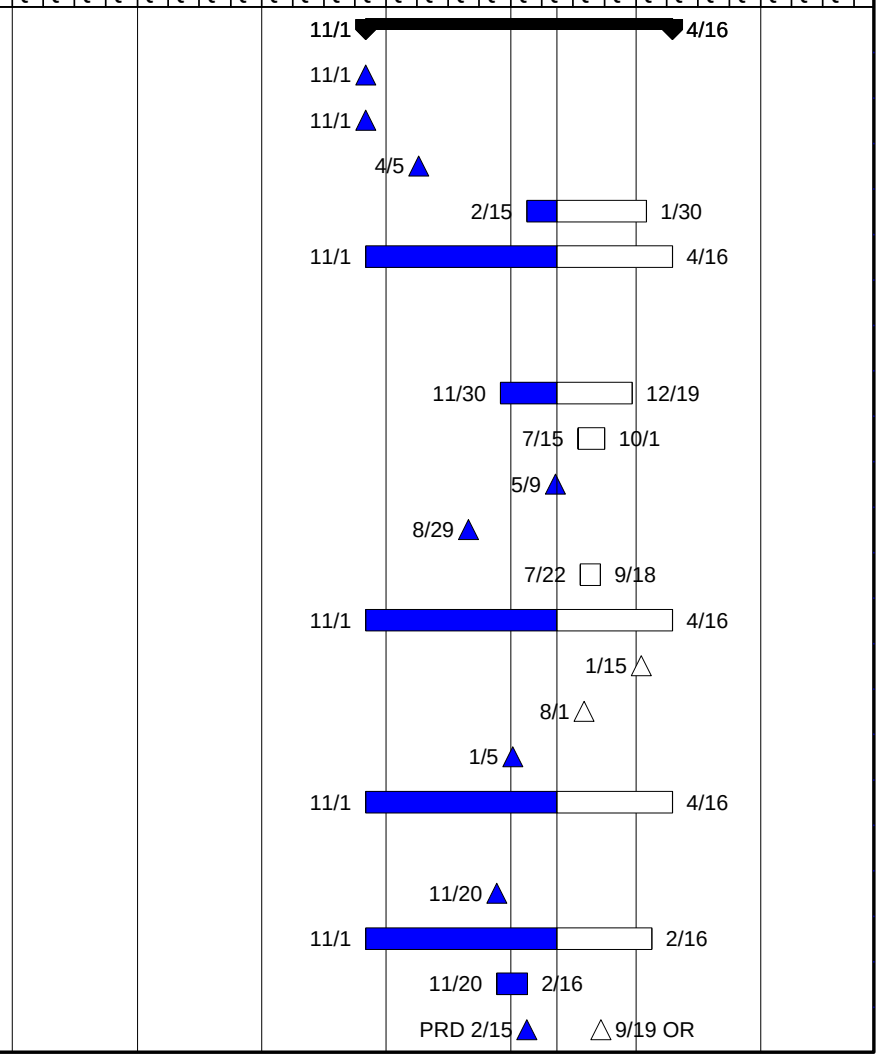
BOSS Kepler Schedule

LSP-F-330.02 Basic

5/13/08

WBS	Name	Resp.	2004 Q1	2004 Q2	2004 Q3	2004 Q4	2005 Q1	2005 Q2	2005 Q3	2005 Q4	2006 Q1	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
	LV & SC Eng & Mfg Phase (~L-27 mths to ~L-3 mths)																												
	START PHASE																												
4.3.1	ATP the Mission & Secure Funding	PIM																											
4.3.2	Hold MIWG Kickoff Meeting	MM																											
4.3.3	Manage ICD Development	MM																											
4.3.4	CDRL Input & Approval	MM																											
4.3.5	MU Requirements Review	LV																											
4.3.6	Launch Vehicle Design Review (PDR & CDR)	LV																											
4.3.7	LV Mfg	LV																											
4.3.8	"LV Contractor Internal MRR (e.g., MRB or VSTR)"	LV																											
4.3.9	Define SC Testing	SC																											
4.3.1	SIR	SC																											
4.3.1	S/C Testing	SC																											
4.3.1	Provide S/C CDRL Input	SC																											
4.3.1	Develop Launch Site Operations Plan	SC																											
4.3.1	S/C Final MSPSP	SC																											
4.3.1	Develop Launch Site Procedures	SC																											
4.3.1	CDRL Review	TM																											
4.3.1	Mission Unique IV&V	TM																											
4.3.1	Publish Preliminary Launch Site Support Plan	LSIM																											
4.3.1	"Exercise all TA's, NSS, Mods to contract to meet	PIM																											
4.3.2	Procure PPF via Payload Process Task Order	PIM																											
4.3.2	Release PRD/OR to ER	LSIM																											



TM = Technical Management
HQ = NASA HQ & Mission Directorate
LD = Launch Director
LSP = LSP Mgmt
LSIM = Launch Site Integration Manager
LSTO = LSTO (Mini Source Board)
LV = Launch Vehicle Contractor
MM = Mission Manager
PIM = Program Integration Manager
SC = Spacecraft Project
SMA = Safety & Mission Assurance

BOSS Kepler Schedule

LSP-F-330.02 Basic

5/13/08

WBS	Name	Resp.	2004	2005	2006	2007	2008	2009	2010
			Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3
4.3.2	Review LV Mission Unique MSPSP	SMA					12/16 1/16		
4.3.2	Mission Support Analysis	TM							
4.3.2	Verify ICD	TM				2/15	2/16		
4.3.2	HAR/MSR equivalent	LV					5/1 Tentative		
4.3.2	Develop LV/SC & Integrated LS Procedures	LV				1/5			
4.3.2	LV Components arrives at Launch Site	LV					11/19		
4.3.2	Publish Baseline LSSP	LSIM					9/9		
4.3.2	GOWG	LSIM			1/18		6/3		
4.3.3	Prepare PPF & services for GSE/SC arrival	LSIM					10/6 12/8		
4.3.3	Comm & Telemetry Reviews	LSIM				2/1	11/7		
4.3.3	Review S/C Final MSPSP	SMA					10/15 11/15		
4.3.3	GOR	LSIM					11/7		
4.3.3	Process Launch Delays as needed	PIM			11/1		2/16		
4.3.3	Track Milestone Payments	PIM			11/1		2/16		
4.3.3	Procure Deployable & Fixed Telemetry Assets	PIM					8/16 2/16		
4.3.3	Begin Access Badging & Training	LSIM					10/6 2/6		
4.3.3	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev,	TM			11/1		2/16		
4.3.3	Payload-LV Fitcheck	TM					8/25		
4.3.4	MIWG	MM							
4.3.4	Safety TIMS PSWG	SMA			1/18	10/24			
4.3.4	S/C PreShip Review	SC					8/15		
4.3.4	S/C Ships	SC					8/16		
4.3.4	Phase Close-Out	MM					11/16		

TM = Technical Management
HQ = NASA HQ & Mission Directorate
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LSIM = Launch Site Integration Manager
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PIM = Program Integration Manager
SC = Spacecraft Project
SMA = Safety & Mission Assurance

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Kepler Mission Management

Dave Breedlove

LAUNCH SERVICES PROGRAM

Mission	Kepler
Launch Date	2009/02/16
Orbit Requirement	C3 0.6 km2/sec2, Earth trailing heliocentric
Launch Vehicle Class	Delta II
Launch Period Window	
PPF	Commercial PPF
Mass (kg)	1181 kg
PAD	Other

Kepler

	Mar	Apr	May
ICD	G	G	G

There are no signed SCNs	There are no SCNs in Review

Observatory Status	Mar	Apr	May
Observatory Status	G	G	G
Schedule	G	G	G
Budget	G	G	G
Deliverables	G	G	G
Testing	G	G	G
ATLO	G	G	G
Instrument	G	G	G

Launch Vehicle Status			
Integrated Schedule	G	G	G
CDRLs (S/C & LSC)	G	G	G
Manifest/Range	G	G	G
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

Mission Center:	JPL
Program:	
PM	Jim Fanson
LVI	Pete Darus
MM	Dave Breedlove
IE	Larry Craig
LSIM	William Van Dyke
PIM	Randy Mizelle
MAM	Homero Hidalgo
MCE	Tuan Doan
MTE	José Amador, PhD

Sensitive But Unclassified

Kepler - Engineering

Larry Craig

	Mar	Apr	May
Launch Vehicle	G	G	0
Payload Fairing	G	G	0
First Stage	G	G	0
Second Stage	G	G	0
Third Stage	G	G	0
Payload Attach Fitting	G	G	0
Other	N/A	N/A	0
Mission Specific	G	G	0
Certification	N/A	N/A	0
Mission Analysis	G	G	0
ERS/ERB	G	G	0
Launch PAD/GSE	G	G	0
Mission Unique IV&V	N/A	N/A	0

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
IRD has requirement to use GN2 purge similar to MAP

MISSION UNIQUE STUDIES (IF APPLICABLE)
There are none.

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Kepler - Mission ERB Status

Larry Craig

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
0	05-379	Kepler IRD	☑	☐	☑	☐	☐	☑	☑	☑

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Kepler - Vehicle ERB Status

Larry Craig

There are no Vehicle ERBs for this mission.

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Kepler - Launch Site

William Van Dyke

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
LSSP	G	G	0

LSSP	Planned	Released
Preliminary	11/16/07	11/20/07
Baseline	09/09/08	

	Mar	Apr	May
CUSTOMER INPUTS	G	G	0

DELIVERABLES	Mar	Apr	May
Security and Badging	G	G	0
Training and Personnel Cert	G	G	0
Contingency Plans	G	G	0
Safety LSIM	G	G	0
Radiation Control	G	G	0
Operational Plans	G	G	0

UNIQUE REQUIREMENTS

	Mar	Apr	May
LAUNCH SITE UNIQUE	G	G	0
PPF	G	G	0
Spacecraft OPS	0	0	0

Kepler Budget Breakdown

Randy Mizelle

The launch service budget includes:

* **Launch Services**
  - Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.
* **Mission Uniques**
  - Requirements necessary to customize basic vehicle hardware to met unique s/c driven requirements.
  - Other services directly attributable to the mission.
  - Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.
* **Integrated Services**
  - LSP contractor support service (ELVIS, CAPPS, JBOSC, KICs, etc).
  - USAF range costs attributable to the mission
  - Limited flexibility
* **Payload Processing Facility**
  - Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
  - Commercial facility: all other missions have been directed to process in a commercial facility;
  - Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.
* **Telemetry**
  - Assets required to meet minimum launch vehicle telemetry requirements.
  - Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
  - Limited flexibility requirements are often set late in the integration cycle.
* **Fly Out**
  - Costs that each mission in the 19-Pack must incur.
  - Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
  - Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
  - Pad Sustainability costs for SLC-2 and SLC-17.
  - No flexibility-contract costs
* **Nuclear**
  - RTG/RHU processing
  - RTG/RHU databooks and approval
  - Limited flexibility
* **Reimbursable**
  - Reimbursable FC for transportation, labor, and CMO.
* **Mission Flexibility**
  - Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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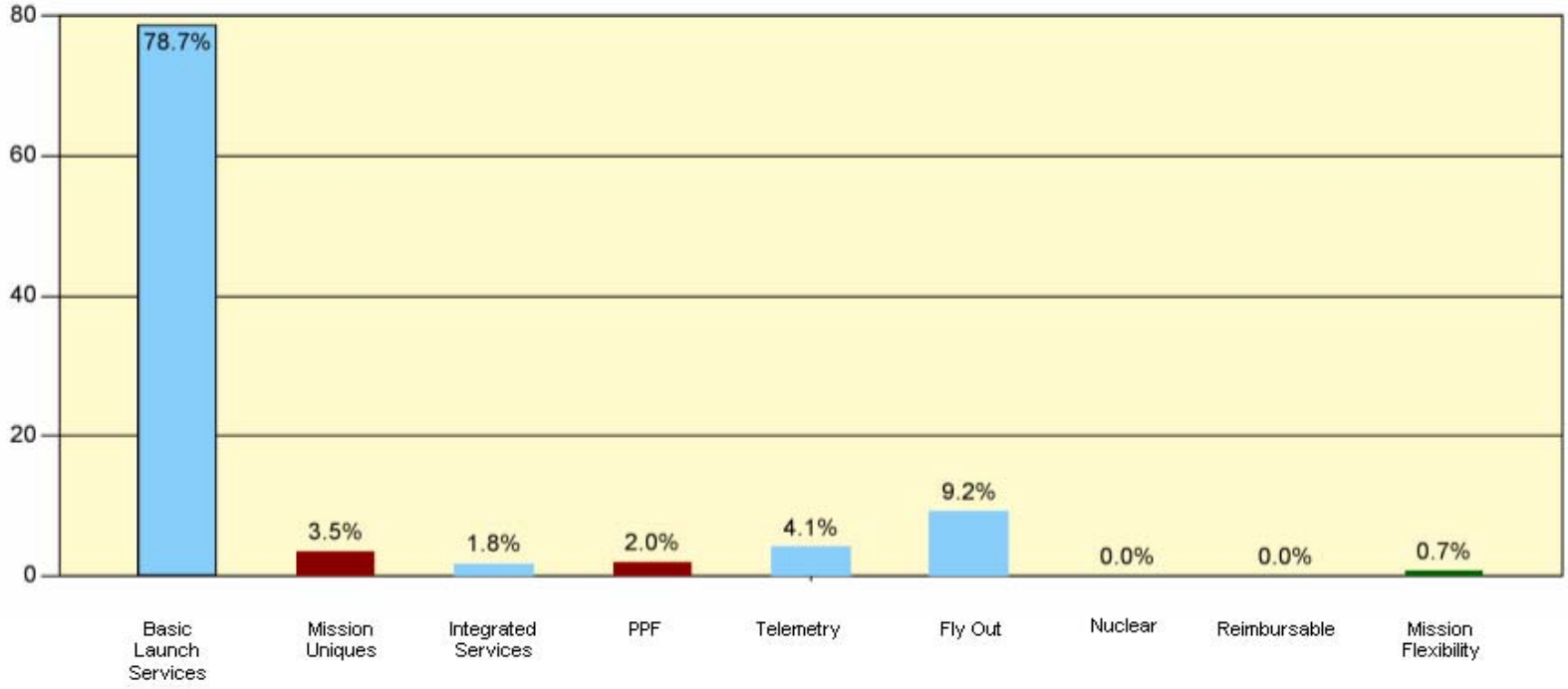
Launch Services Budget Breakdown

Kepler Mission

Randy Mizelle

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 5 / 2008



No flexibility; cost are fixed

Limited Flexibility depending on spacecraft requirements

Flexible portion of budget

Notes:

Above percentages contain dollars associated with the Boeing settlement. Boeing settlement for this mission is $645.0K.
No variance since January report.

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Kepler - Business

Randy Mizelle

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
Budget	G	G	G
Contracts	G	G	G

Milestone	Date
Milestone #1	12/04/2006
Milestone #2	03/06/2007
Milestone #3	07/09/2007
Milestone #4	03/18/2008
Milestone #5	03/18/2008
Milestone #6	05/16/2008
Milestone #7	08/16/2008
Milestone #8	11/16/2008
Milestone #9	02/16/2008

Open Milestone Payment

Paid Milestone

Contract Status

Launch Services

Contract Mod	Number	Description
	100	NSS 20.3.3/Quick Turnaround CLA
	152	NSS 20.3.2 Preliminary Performance/Trajectory Analysis
	178	NSS 20.3.4 Final Design Load Cycle
	125	NSS 33.1 Post Production Support CY05 (flyout)
	229	KEPLER Test Payload Attach Fitting (PAF)
	242	NSS 20.2 Early MIWG NSS 20.3.2 Preliminary Performance/Trajectory Analysis NSS 20.3.3 Quick Turnaround Coupled Loads Analysis
	125	NSS 30.1 Long-lead Mat'l/Adv NSS 33.1 Post Prod Spt (FY05)
	255	CLIN 21 Kepler Basic Launch Service
	255	NSS 2.1.1 Replace 10-ft w/10L PLF

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Contract Mod	Number	Description
	255	NSS 20.1 Pedigree Review
	255	NSS 20.3.4 Final Design Load Analysis
	255	NSS 9.1.2 Two 61-pin connectors
	255	NSS 2.1.2 Replace 9ft Fairing with 10ft Fairing
	0272	Cancel NSS 20.3.2 Preliminary Performance/Trajectory Analysis
	255	ATP Mission
	240	NSS 32.1 VAFB Launch Site O&M and NSS 33.1 Post Production Support
	0306	Launch delay from 11/01/08 to 02/16/09.
	309	NSS 35.2 Additional 40 Mission Console Notebooks
There are no LD Contract Mods		

Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-210R1	TPAF Support	11/1/2006	01/17/2007
	NLSB-221	TA NLSB-254 HGA Relocation Evaluation	09/15/2006	09/20/2006
	NLSB-245R1	61-Pin Connectors additional Material	12/18/2006	01/17/2007
	NLSB-253	Additional Integrated Thermal Analysis.	03/01/2007	03/19/2007
	NLSB-286	Kepler Line-Load Analysis	06/08/2007	01/08/2008
	NLSB-305R3	Lightning Detection System and Radio Frequency Detection System Installation onto Pad SLC-17B	04/16/2008	
	NLSB-308	Electrical Interface Test Connectors	04/30/2008	
	NLSB-316	Electrical Connector Interface Bracket	08/19/2008	
There are no PPF Contract Mods				
There are no Other Contract Mods				

	Issues
G	Mission has 0 days of grace remaining and the next notification point for a potential launch delay is 08/15/2008 for either Government or Contractor (L-6 mo + 1 Day).

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Kepler - Safety and Mission Assurance

Homero Hidalgo

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status: Complete	Status: In Work	Evidence of Completion	Mar	Apr	May
Quality				Y	Y	Y
Software / Hardware Problems	☐	☑	Currently re-evaulating the ULA-Boeing's Quality Management System risk.	Y	Y	Y
Alerts	☐	☑	SMA is tracking no GIDEP issues at this time.	G	G	G
Audits/Inspections/Surveillances	☐	☑	SMA Quality is continuing to selectively perform surveillances and audits	G	G	G
Limited Life Items	☐	☑	SMA is tracking no LLI issues at this time.	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	☐	☑	No FMEA/Fishbones/Equivalent have been identified	G	G	G
Reliability Assessments	☐	☑	The reliability data gathering task is continuing	G	G	G
Safety				G	G	G
Requirements Definitions	☑	☐	No issues	G	G	G
Range Safety & Mission Flight Rules	☐	☑	No issues	G	G	G
Licenses/Use Authorizations	☐	☑	No issues	G	G	G
Safety Documentation	☐	☑	No issues	G	G	G
Non-compliances	☐	☑	Expecting Noncompliance for prop F&D valves	G	G	G
Contingency Planning	☐	☑	No status	G	G	G
Mission Assurance				Y	Y	Y
Lessons Learned	☐	☑	No issues.	G	G	G
First Flight/Mission Unique items	☐	☑	No issues	G	G	G
Test/Qualification/Certification	☐	☑	No issues	G	G	G
Mission Assurance Assessments	☐	☑	Alenia 2nd-Stage Oxidizer Leak, inspection process ID; ULA transition; Tyco Relay & P&C box	Y	Y	Y
Risk Management	☐	☑	No issues	G	G	G

Kepler Comm & Telemetry

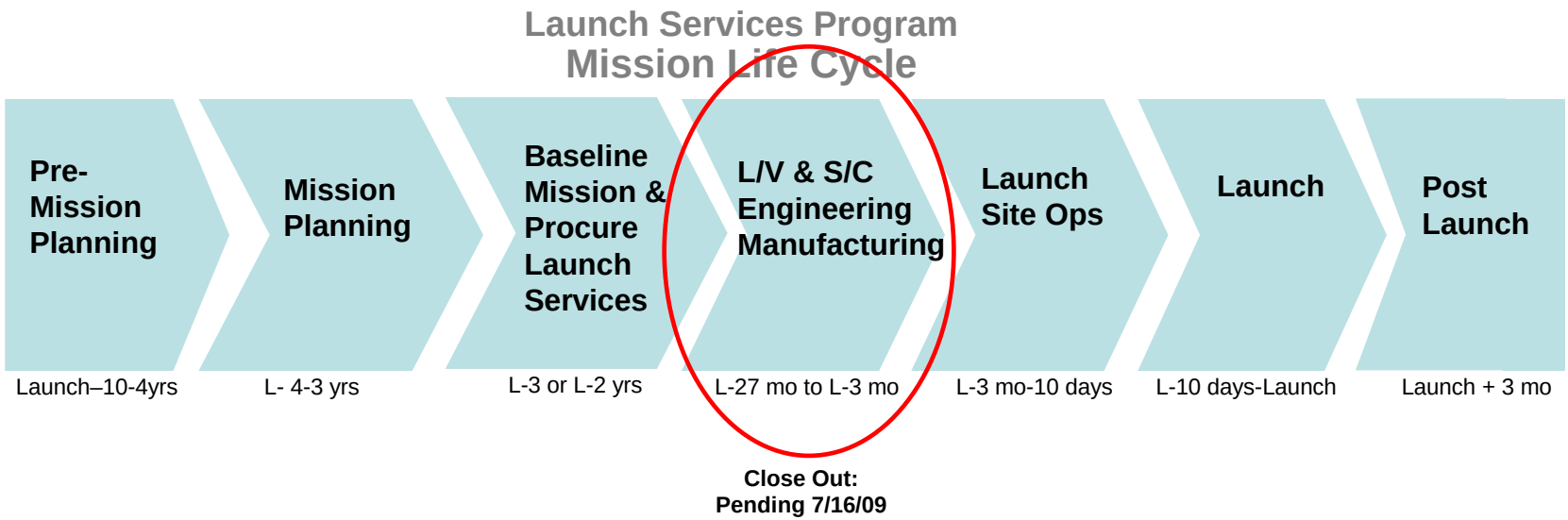
Tuan Doan and José Amador, PhD

	Mar	Apr	May
Communications	G	G	G
Voice Comm	0	0	0
Data Comm	0	0	0
Networks	0	0	0
Video Comm	0	0	0
Timing	0	0	0
RF Comm	0	0	0
LSSP Comm Annex	0	0	0

	Mar	Apr	May
Telemetry	0	0	0
Decommutation Tables	0	0	0
Data Integrity Test	0	0	0
Software Lockdown	0	0	0
Software Inventory	0	0	0
Console Configuration	0	0	0
Console Checkout	0	0	0

WISE

Launch Date: 11/1/09



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WISE Project Summary

LAUNCH SERVICES PROGRAM

Mission	WISE
Launch Date	2009/11/01
Launch Vehicle	Delta II
Launch Period Window	Any day of year
PPF	Commercial PPF

	Mar	Apr	May
OVERALL MISSION	Y	Y	Y

MISSION MANAGEMENT	Mar	Apr	May
Observatory Status	G	G	G
Manifest/Range	G	G	G
Integrated Schedule	G	G	G
ICD	G	G	G
CDRLs (S/C & LSC)	G	G	G

LAUNCH SITE	Mar	Apr	May
LSSP	G	G	G
Customer Inputs	G	G	G
PPF	G	G	G
Launch Site Unique	G	G	G
Spacecraft OPS	G	G	G

SAFETY & MISSION ASSURANCE	Mar	Apr	May
Mission Assurance	Y	Y	Y
Safety	G	G	G
Quality	Y	Y	Y
Reliability	G	G	G

ENGINEERING			
Launch Vehicle	G	R	R
Mission Specific	G	G	G
Certification	G	G	G
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

COMM & TELEMETRY			
Communications	G	0	0
Telemetry	0	0	0

BUSINESS			
Budget	G	G	G
Contracts	G	Y	Y

DOWNRANGE TELEMETRY			
Ground Stations	G	G	G
Deployables	G	G	G
P-3/OTTR	G	G	G

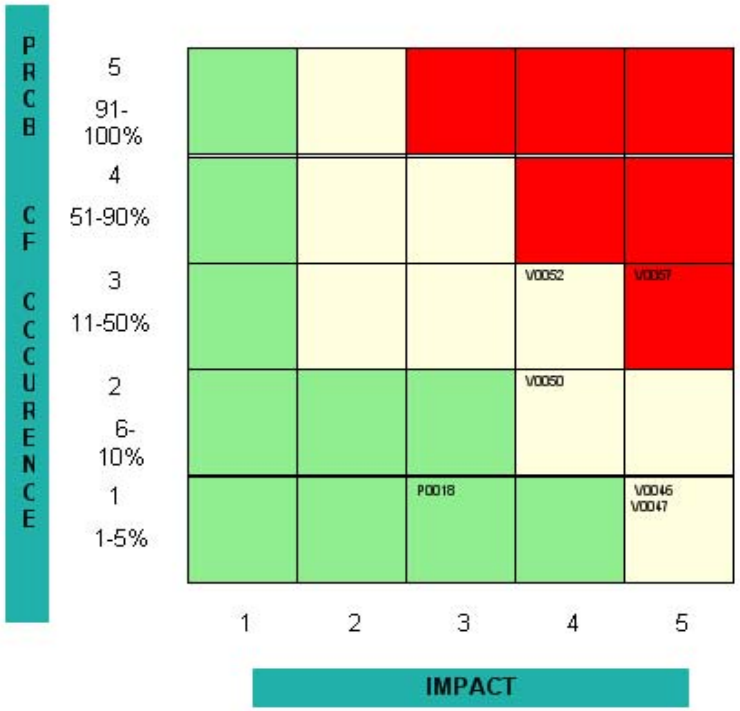
LEGEND

Proceeding on Plan	G
Area of Concern	Y
Significant Problem	R
Not Evaluated	0
Not Applicable	N/A

Sensitive But Unclassified

WISE - Open/Accepted Risks

		Condition
RYG Trend	RiskID	Consequence
0	V0046	ULA/Boeing does not perform an inspection for microscopic cracks before providing a spacecraft customer with a test payload attach fitting (TPAF) or clampband.
		Propagation of a micro crack(s) in the TPAF or clampband during shock or vibration testing could cause damage to the spacecraft.
0	V0052	LS SMA has noted human error and process issues that indicate that Boeing's quality management system corrective actions are not preventing re-ocurrence.
		The re-occurrence of undetected human errors and process problems can lead to major damage or loss of flight hardware or GSE.
0	V0050	Dawn experienced a significant delay very late in the hardware production process that delayed the launch readiness date. The same contributing causes exist for other NASA missions.
		Possible delay of other NASA missions.
0	P0018	Traditional DMCO Testing (Bldg AO on CCAFS) on Commercial and NASA Delta II launch vehicles will be eliminated. Required testing that has historically been performed in DMCO will be transferred to the launch pad as part of the "DMCO On-Pad Initiative."
		Elimination of traditional DMCO Testing will not allow for capturing hardware failures off-pad, and thus introduce potential for on-pad schedule delays of more than one key milestone if hardware fails during pad testing.



0	V0047	Failure analysis of a Pacific Scientific PN 107800-201detonator (SN 4498) that failed service life extension testing uncovered a manufacturing process vulnerability in which detonators could be reworked and inadvertently returned to production without the correct load of explosive material.
		Failure to initiate FTS destruct ordnance chain on command.
0	V0057	During accelerated age testing on 9/28/07 a GG TLX line from lot UCO07001-002 failed to produce output
		Failure of the GG TLX will cause all six ground ignited GEMs to remain attached tot he LV resulting in a mission failure

WISE - Actions / Issues / Concerns

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	ULA/Boeing does not inspect for microscopic cracks before providing a s/c customer a test payload attach fitting (TPAF)or clampband. Propagation of micro cracks in the TPAF or clampband during shock or vibration testing could cause damage to the s/c. JOH Update - TPAF passed inspection and delivetred to project for use. Re-inspection criteria being evaluated.	Risk V0046	8/31/07	06/01/2008
Engineering	G	LS SMA has noted human error and processing issues that indicate that Boeing's quality management system corrective actions are not preventing re-occurence. The re-occurence of undetected human errors and process problems can lead to major damage or loss of lfight hardware or GSE.	Risk V0052	8/31/07	
Engineering	G	DAWN experienced a significant delay very late in the hardware production process that delayed the launch readiness date. The same contributing causes exist for other NASA missions. Possible delay for other NASA missions.	Risk V0050	8/31/07	
Engineering	G	Traditional DMCO Testing (Bldg AO on CCAFS) on Commercial and NASA Delta II launch vehicles will be eliminated. Required testing that has historically been performed in DMCO will be transferred to the launch pad as part of the "DMCO On-Pad Initiative." Elimination of traditional DMCO testing will not allow for capturing hardware failures off-pad, and thus introduce potential for on-pad schedule delays of more than one key milestone if hardware fails during pad testing.	Risk P0018	8/31/07	
Engineering	G	Failure analysis of a Pacific Scientific PN 107800-201 detonator (SN 4498) that failed service life extension testing uncovered a manufacturing process vulnerability in which detonators could be reworked and inadvertently returned to production without the correct load of explosive material. Failure to initiate FTS destruct ordnance chain on command. Mission specific pyro verif needed.	Risk V0047	8/30/07	

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	Kick off MIWG Strength results for Flight Design Load Cycle (FDLC) reported low strength margin of safety. Clampband gapping margin of safety is low. Clampband pre-load required is high. This drives a higher than expected shock load. Analysis used 200 lbf sep springs instead of 100 lbf. Discussion of dynamic uncertainty factor (DUF) is in work. Update JOH 5/12/08 - Project is working on an instrument shock reduction plan.	WI	10/3/07	05/01/2008
Mission Management	R	ULA reports that the 3715C Payload Attach Fitting (PAF) supplier will no longer produce the PAF. ULA is evaluating options and preparing for discussion with NASA. Update JOH 5/12/08 - decision expected by 6/1/08	Problem	4/15/2008	06/02/2008
Engineering	G	RF Inhibits - Project reported their S-band lacks the ULA required two inhibits. JPL to provide additional data in case a waiver is required.	WI	5/12/08	6/2/08

WISE - Significant Events

Accomplished	
Quick turn around CLA on contract	Mar 06
S/C Questionnaire transmittal to ULA.	10/31/2007
Early MIWG/GOWG	Nov 06
Confirmation Review	Oct 06
Authority To Proceed (ATP) w/27 mo integration cycle.	08/01/2007
S/C CDR	4/3/07
Hydrogen and Cryo GSE study	08/09/2007-12/12/2007
Mission CDR	06/20/2007
PRCB for ATP Concurrence	07/27/2007
Kickoff MIWG	10/3/07
Mission Turn On ERB	7/31/07-7/31/07
Vent Stack TIM at VAFB	12/12/2007
MIWG @ KSC	2/20/08-2/20/08
Receive ICD Initial Draft	5/12/08-5/12/08

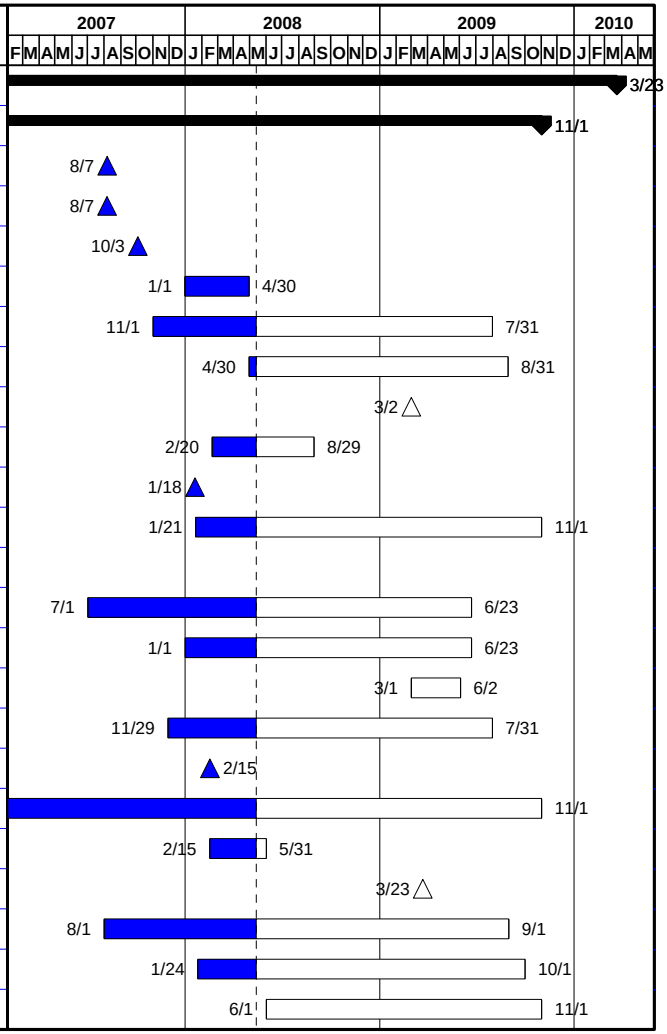
Planned	
Kickoff GOWG @ VAFB	TBD
Hydrogen Cryostat Vent Stack CDR	Mid-June 08

BOSS WISE Schedule

LSP-F-330.02 Basic

5/13/08

ID	WBS	Name	Resp.	Start	Finish
1		**BOSS WISE Schedule**			3/23
2		**LV & SC Engineering & Manufacturing Phase (~L-27 months to ~L-3 months)**			11/1
3		START PHASE		8/7	
4	4.3.1	ATP the Mission & Secure Funding	PIM	8/7	
5	4.3.2	Hold MIWG Kickoff Meeting	MM	10/3	
6	4.3.3	Manage ICD Development	MM	1/1	4/30
7	4.3.4	CDRL Input & Approval	MM	11/1	7/31
8	4.3.7	LV Mfg	LV	4/30	8/31
9	4.3.8	"LV Contractor Internal MRR (e.g., MRB or VSTR)"	LV	3/2	
10	4.3.9	Define SC Testing	SC	2/20	8/29
11	4.3.10	SIR	SC	1/18	
12	4.3.11	S/C Testing	SC	1/21	11/1
13	4.3.12	Provide S/C CDRL Input	SC		
14	4.3.13	Develop Launch Site Operations Plan	SC	7/1	6/23
15	4.3.14	S/C Final MSPSP	SC	1/1	6/23
16	4.3.15	Develop Launch Site Procedures	SC	3/1	6/2
17	4.3.16	CDRL Review	TM	11/29	7/31
18	4.3.18	Publish Preliminary Launch Site Support Plan	LSIM	2/15	
19	4.3.19	"Exercise all TA's, NSS, Mods to contract to meet needs"	PIM		11/1
20	4.3.20	Procure PPF via Payload Process Task Order	PIM	2/15	5/31
21	4.3.21	PRD/OR	LSIM	3/23	
22	4.3.22	Review LV Mission Unique MSPSP	SMA	8/1	9/1
23	4.3.23	Mission Support Analysis	TM	1/24	10/1
24	4.3.24	Verify ICD	TM	6/1	11/1



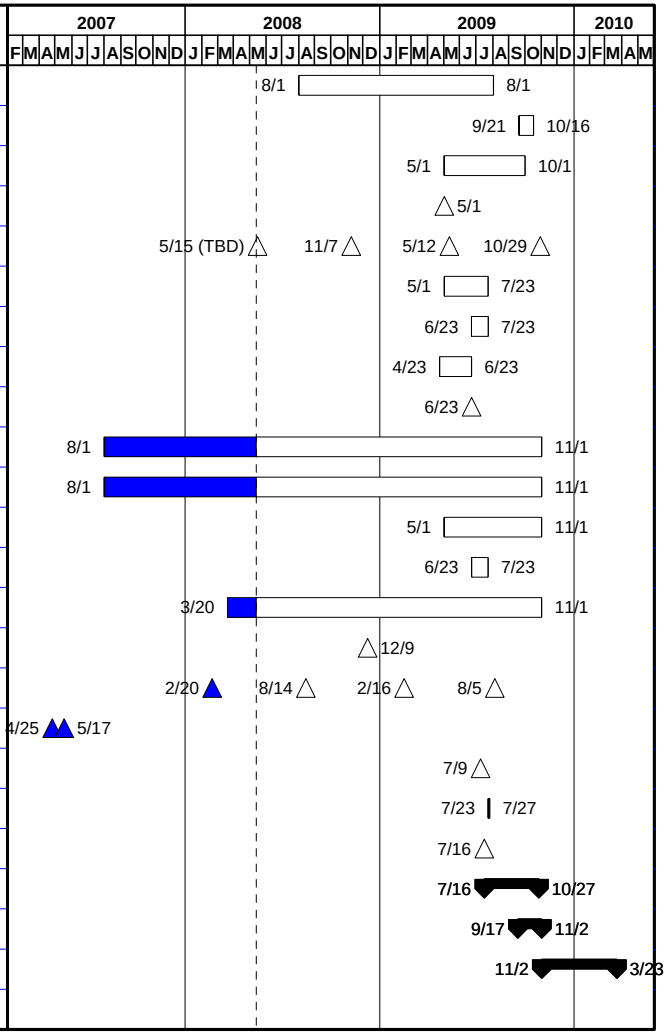
TM = Technical Management	HQ = NASA HQ & Mission Directorate	LD = Launch Director	LSP = LSP Mgmt
LSIM = Launch Site Integration Manager	LSTO = LSTO (Mini Source Board)	LV = Launch Vehicle Contractor	MM = Mission Manager
PIM = Program Integration Manager	SC = Spacecraft Project	SMA = Safety & Mission Assurance	

BOSS WISE Schedule

LSP-F-330.02 Basic

5/13/08

ID	WBS	Name	Resp.
25	4.3.25	HAR/MSR equivalent	LV
26	4.3.26	Develop LV/SC & Integrated LS Procedures	LV
27	4.3.27	LV Components arrives at Launch Site	LV
28	4.3.28	Publish Baseline LSSP	LSIM
29	4.3.29	GOWG	LSIM
30	4.3.30	Prepare PPF & services for GSE/SC arrival	LSIM
31	4.3.31	Comm & Telemetry Reviews	LSIM
32	4.3.32	Review S/C Final MSPSP	SMA
33	4.3.33	GOR	LSIM
34	4.3.34	Process Launch Delays as needed	PIM
35	4.3.35	Track Milestone Payments	PIM
36	4.3.36	Procure Deployable & Fixed Telemetry Assets	PIM
37	4.3.37	Begin Access Badging & Training	LSIM
38	4.3.38	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev, Des Rev, Qual)"	TM
39	4.3.39	Payload-LV Fitcheck	TM
40	4.3.40	MIWG	MM
41	4.3.41	Safety TIMS PSWG	SMA
42	4.3.42	S/C PreShip Review	SC
43	4.3.43	S/C Ships	SC
44	4.3.44	Phase Close-Out	MM
45		**Launch Site Operations (~L-3 months to ~L-10 days)**	
68		**Launch Phase (~L-10 days to Launch)**	
86		**Post Launch Phase (to ~L+3 months)**	



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PIM = Program Integration Manager	SC = Spacecraft Project	SMA = Safety & Mission Assurance	

WISE Mission Management

Armando Piloto

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LAUNCH SERVICES PROGRAM

Mission	WISE
Launch Date	2009/11/01
Orbit Requirement	725km sun sync 6 am or pm ascending node
Launch Vehicle Class	Delta II
Launch Period Window	Any day of year
PPF	Commercial PPF
Mass (kg)	1387
PAD	SLC-2

Observatory Status	Mar	Apr	May
Observatory Status	G	G	G
Schedule	G	G	G
Budget	G	G	G
Deliverables	G	G	G
Testing	Y	Y	Y
ATLO	G	G	G
Instrument	G	G	G

Mission Center:	JPL
Program:	Explorer
PM	Bill Irace
LVI	Pete Darus
MM	Armando Piloto
IE	Jim Hoffman
LSIM	Jeffrey Ehrsam
PIM	Randy Mizelle
MAM	Homero Hidalgo
MCE	Tuan Doan
MTE	José Amador, PhD

	Mar	Apr	May
ICD	G	G	G

Launch Vehicle Status	Mar	Apr	May
Integrated Schedule	G	G	G
CDRLs (S/C & LSC)	G	G	G
Manifest/Range	G	G	G
Ground Stations	G	G	G
Deployables	G	G	G
P-3/OTTR	G	G	G

There are no signed SCNs

SCNS IN REVIEW	
SCN #	**DATE SIGNED**
ICD Pending	

WISE - Engineering

Jim Hoffman

	Mar	Apr	May
Launch Vehicle	G	R	R
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	Y	R	R
Other	N/A	N/A	N/A
Mission Specific	G	G	G
Certification	G	G	G
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
Evaluating the pad impacts of servicing the S/C Hydrogen Cryostat

MISSION UNIQUE STUDIES (IF APPLICABLE)
Evaluating methods to reduce the high lateral loads CLA results

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WISE - Mission ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
G	ERS-07-272 (TBS)	Mission ICD ERB	☑	☐	☐	☑	☐	☐	☐	☐
G	08-51 (TBS)	WISE Hydrogen Vent Stack Design	☑	☐	☐	☑	☐	☐	☐	☐
R	08-118	3715C Qual PAF for WISE Mission	☑	☐	☐	☑	☐	☐	☐	☐

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WISE - Vehicle ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
G	06-284	2nd Stage Tank Leak (WISE Mission Specific ERB)	☑	☐	☐	☑	☐	☐	☐	☐
G	07-40	Goodrich Analysis of Leach and Tyco Relay Failures (long term fix)	☑	☐	☐	☑	☐	☐	☐	☐
G	07-308	delta II GG TLX Output Failure (flt specific)	☑	☐	☐	☑	☐	☐	☐	☐
G	07-366	COSMO-2 1st Stage Engine Mixture Ratio Observation (flt specific)	☑	☐	☐	☑	☐	☐	☐	☐
G	08-29	40Ah Common Battery for Delta II and delta IV (possible first flt for WISE)	☑	☐	☐	☑	☐	☐	☐	☐

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WISE - Launch Site

Jeffrey Ehrsam

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
LSSP	G	G	G

LSSP	Planned	Released
Preliminary	02/15/2008	02/01/2008
Baseline	05/01/2009	

	Mar	Apr	May
CUSTOMER INPUTS	G	G	G

DELIVERABLES	Mar	Apr	May
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Mar	Apr	May
LAUNCH SITE UNIQUE	G	G	G
Two 500liter dewars of liquid helium to be replaced every day on Level 5 at SLC-2. Level 5 modifications required. Initial Study TA was functionally completed on 12 Dec 2007. Next step is a pathfinder TA. ULA Proposal received. JPL concerned about budget and placed proposal process on hold for de-scoping.	G	G	G
Design/Install hydrogen vent stack at PPF, SLC-2 MST and Boeing Can. Initial Study TA shows MSX vent design satisfactory. Next step is fabrication TA. ULA proposal acceptable. Expect ATP mid April 2008.	G	G	G
PPF	G	G	G
Spacecraft OPS	G	G	G

WISE Budget Breakdown

Randy Mizelle

The launch service budget includes:

* **Launch Services**
  - Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.
* **Mission Uniques**
  - Requirements necessary to customize basic vehicle hardware to met unique s/c driven requirements.
  - Other services directly attributable to the mission.
  - Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.
* **Integrated Services**
  - LSP contractor support service (ELVIS, CAPPS, JBOSC, KICs, etc).
  - USAF range costs attributable to the mission
  - Limited flexibility
* **Payload Processing Facility**
  - Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
  - Commercial facility: all other missions have been directed to process in a commercial facility;
  - Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.
* **Telemetry**
  - Assets required to meet minimum launch vehicle telemetry requirements.
  - Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
  - Limited flexibility requirements are often set late in the integration cycle.
* **Fly Out**
  - Costs that each mission in the 19-Pack must incur.
  - Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
  - Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
  - Pad Sustainability costs for SLC-2 and SLC-17.
  - No flexibility-contract costs
* **Nuclear**
  - RTG/RHU processing
  - RTG/RHU databooks and approval
  - Limited flexibility
* **Reimbursable**
  - Reimbursable FC for transportation, labor, and CMO.
* **Mission Flexibility**
  - Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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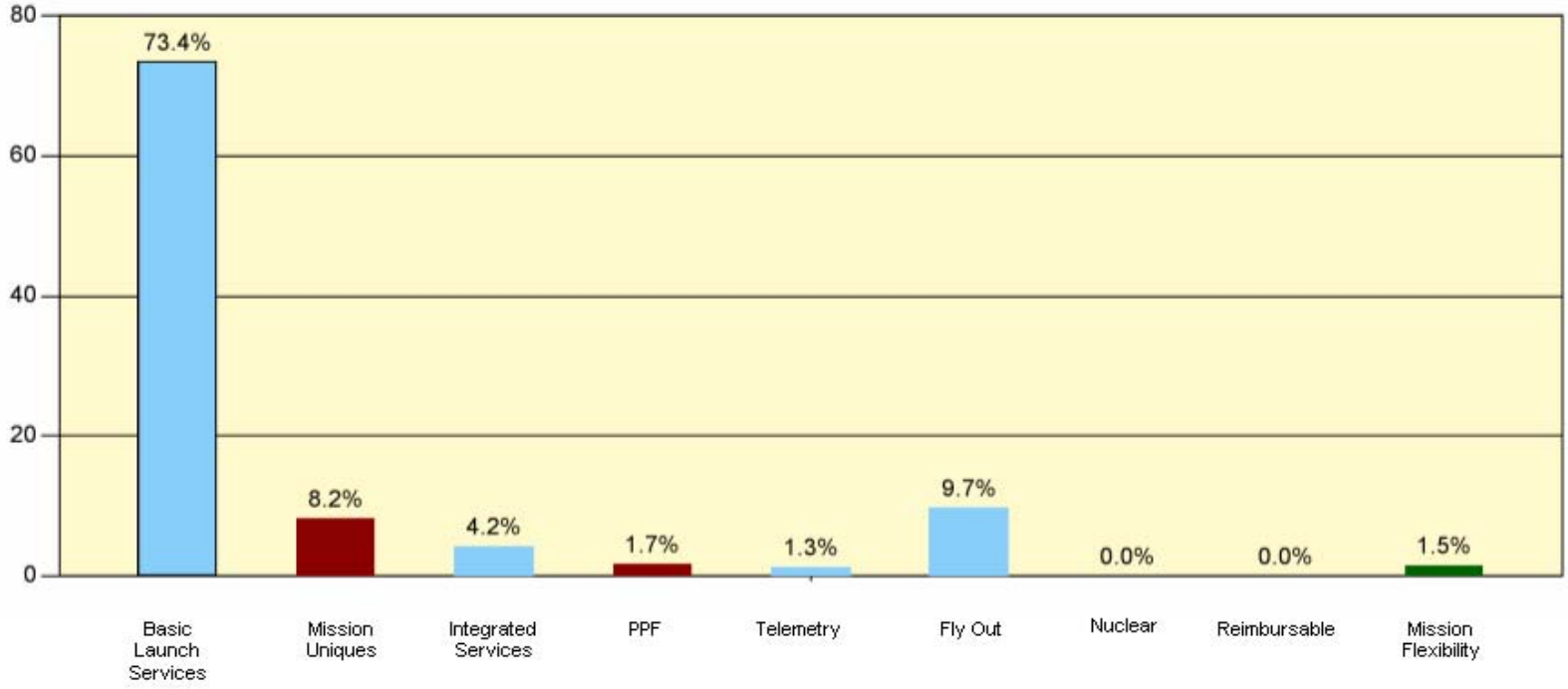
Launch Services Budget Breakdown

WISE Mission

Randy Mizelle

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 5 / 2008



No flexibility; cost are fixed

Limited Flexibility depending on spacecraft requirements

Flexible portion of budget

Notes:

Flexibility change from 1.2% to 2.2% due to math error in the total budget number in the chart database. However, updated budget number is in sync with KSC, HQ and JPL budget numers. Mission requirements did not change during this period.

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WISE - Business

Randy Mizelle

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
Budget	G	G	G
Contracts	G	Y	Y

Milestone	Date
Milestone 1	09/26/2007
Milestone 2	12/18/2007
Milestone 3	02/01/2008
Milestone 4	05/01/2008
Milestone 5	08/01/2008
Milestone 6	11/01/2008
Milestone 7	02/01/2009
Milestone 8	05/01/2009
Milestone 9	08/01/2009
Milestone 10	11/01/2009

Open Milestone Payment

Paid Milestone

Contract Status

Launch Services

Contract Mod	Number	Description
	NLSB-60	12/11/02 FPB directed change in MIDEX-6 (CLIN 25) Vehicle config. From 2420-10 to 2425-10
	NLSB-191	8/26/05 FPB directed the renaming of CLIN 25 from MIDEX-6 to "WISE"; establishment of the launch site as VAFB; and change of vehicle config. From 2425-10 to 2320-10
	NLSB-214	NSS 20.3.3 Early CLA
	NLSB-236	12/6/2005 FPB directed change to WISE Launch Date from 3/31/08 to 6/14/09
	NLSB-242	NSS 20.2 Early MIWG
	NLS-B 257	NSS 20.3.4 Final Design Load Cycle
	NLSB-265	Adjust launch date from June 14, 2009 to November 1, 2009.
	295	ATP Mission
	295	NSS 30.2 Long Lead Material Liquidation Credit

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Contract Mod	Number	Description
	295	NSS 2.2.3 Additonal 24 -inch diameter door
	295	NSS 3.1.3 3715C Payload Adapter
	295	NSS 35.2 Additional 40 Mission Console Notebooks
	295	NSS 20.1 Pedigree Review
	295	NSS 27.1 Western Range (WR) Launch Incremental
	125	NSS 30.1 Long-lead Mat'l/Adv NSS 33.1 Post Prod Support
	240	NSS 32.1 VAFB Launch Site O&M and NSS 33.1 Post Production

There are no LD Contract Mods

Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-299R1	Fabrication and testing of Hydrogen Vent Stack on the SLC-2 Mobil Service Tower and Transportation Canister	11/10/2007	02/26/2008
	NLSB-304	37-Pin electrical connectors	10/04/2007	02/26/2008
	NLSB-307	Test PAF Inspection	01/20/2008	02/26/2008
	NLSB-325	Fabrication and Testing of Hydrogen Vent Stacks on the SLC-2 MST and Transportation Canister	09/30/2008	

There are no PPF Contract Mods

There are no Other Contract Mods

	Issues
G	Launch Service Contractor Milestone # 3 and # 4 have been received and are under review.
G	Mission has 120 days of grace remaining and the next notification point for a potential launch delay is 10/31/2008 for either Government or Contractor (L-12 mo + 1 Day).
Y	PAF subcontractor submitted no-bid for this contract; coordinating alternative options with launch services contractor.

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WISE - Safety and Mission Assurance

Homero Hidalgo

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status: Complete	Status: In Work	Evidence of Completion	Mar	Apr	May
Quality				Y	Y	Y
Software / Hardware Problems	☐	☑	Currently re-evaulating the ULA-Boeing's Quality Management System risk.	Y	Y	Y
Alerts	☐	☑	SMA is tracking no GIDEP issues at this time.	G	G	G
Audits/Inspections/Surveillances	☐	☑	SMA Quality is continuing to selectively perform surveillances and audits	G	G	G
Limited Life Items	☐	☑	SMA is tracking no LLI issues at this time	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	☐	☑		0	G	G
Reliability Assessments	☐	☑		0	G	G
Safety				G	G	G
Requirements Definitions	☐	☑	No Issues at this time	G	G	G
Range Safety & Mission Flight Rules	☐	☑	No Issues at this time	G	G	G
Licenses/Use Authorizations	☐	☑	No Issues at this time	G	G	G
Safety Documentation	☐	☑	No Issues at this time	G	G	G
Non-compliances	☐	☑	No Issues at this time	G	G	G
Contingency Planning	☐	☑	No Issues at this time	G	G	G
Mission Assurance				Y	Y	Y
Lessons Learned	☐	☑	No Issues at this time	G	G	G
First Flight/Mission Unique items	☐	☑	Cryo Vent Stack effort in progress; no current issues	G	G	G
Test/Qualification/Certification	☐	☑	No Issues at this time	G	G	G
Mission Assurance Assessments	☐	☑	Alenia 2nd-Stage Oxidizer Leak, inspection process ID; ULA transition; Tyco Relays and P&C Box	Y	Y	Y
Risk Management	☐	☑	No Issues at this time	G	G	G

WISE Comm & Telemetry

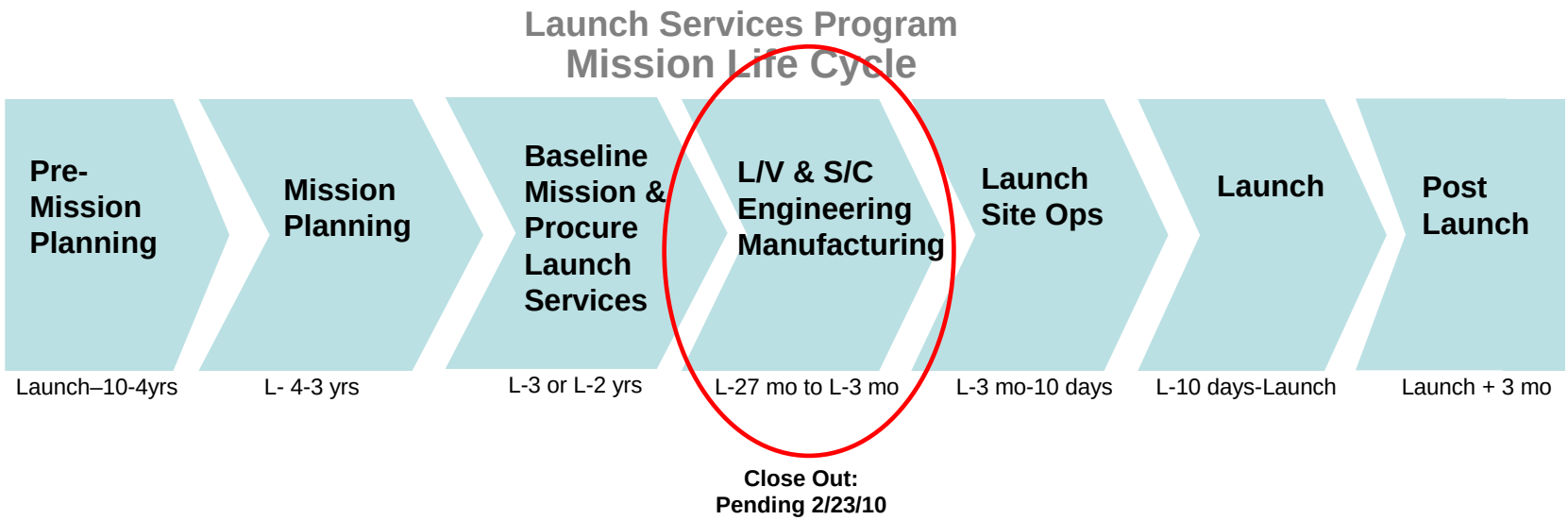
Tuan Doan and José Amador, PhD

	Mar	Apr	May
Communications	G	0	0
Voice Comm	0	0	0
Data Comm	0	0	0
Networks	0	0	0
Video Comm	0	0	0
Timing	0	0	0
RF Comm	0	0	0
LSSP Comm Annex	0	0	0

	Mar	Apr	May
Telemetry	0	0	0
Decommutation Tables	0	0	0
Data Integrity Test	0	0	0
Software Lockdown	0	0	0
Software Inventory	0	0	0
Console Configuration	0	0	0
Console Checkout	0	0	0

Aquarius

Launch Date: 5/23/10



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Aquarius Project Summary

LAUNCH SERVICES PROGRAM

Mission	Aquarius
Launch Date	2010/05/23
Launch Vehicle	Delta II
Launch Period Window	
PPF	Commercial PPF

	Mar	Apr	May
OVERALL MISSION	G	G	G

MISSION MANAGEMENT	Mar	Apr	May
Observatory Status	G	G	G
Manifest/Range	G	G	G
Integrated Schedule	G	G	G
ICD	0	0	0
CDRLs (S/C & LSC)	G	G	G

LAUNCH SITE	Mar	Apr	May
LSSP	G	G	G
Customer Inputs	G	G	G
PPF	G	G	G
Launch Site Unique	G	G	G
Spacecraft OPS	G	G	G

SAFETY & MISSION ASSURANCE	Mar	Apr	May
Mission Assurance	G	G	G
Safety	G	G	G
Quality	G	G	G
Reliability	G	G	G

ENGINEERING			
Launch Vehicle	G	G	G
Mission Specific	G	G	G
Certification	N/A	0	0
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	0	0

COMM & TELEMETRY			
Communications	0	0	0
Telemetry	0	0	0

BUSINESS			
Budget	Y	Y	Y
Contracts	G	G	G

DOWNRANGE TELEMETRY			
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

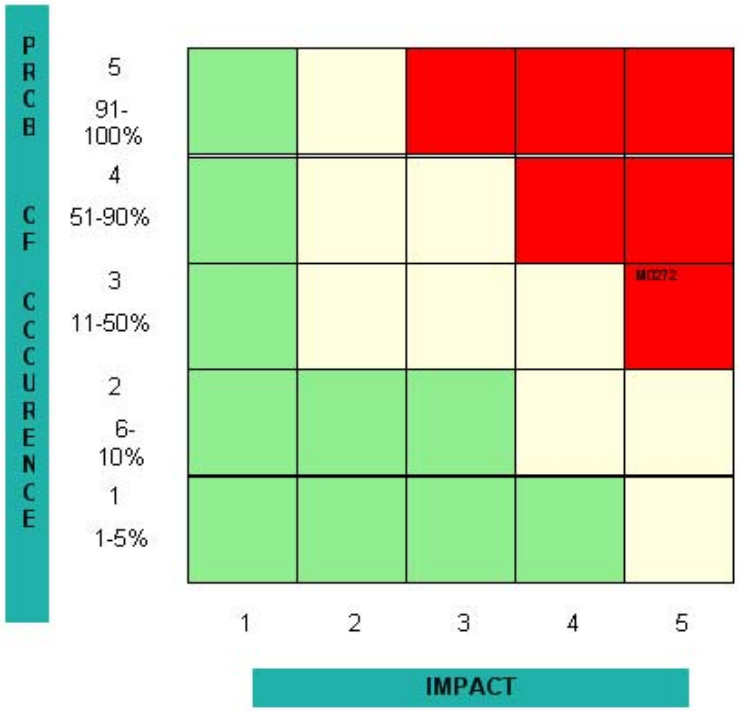
LEGEND

Proceeding on Plan	G
Area of Concern	Y
Significant Problem	R
Not Evaluated	0
Not Applicable	N/A

Sensitive But Unclassified

Aquarius - Open/Accepted Risks

		Condition
RYG Trend	RiskID	Consequence
0	M0272	The proposed launch date for Aquarius is May, 2010. There are no CY2010 contract prices for SLC-2 Delta II O&M or post-production support on the NLS contract.
		Without CY2010 prices in place, there will be a break in O&M support at the pad. Also, there is currently not a quantified cost for the launch pad support that will be paid for by the Aquarius mission.



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Aquarius - Actions / Issues / Concerns

LAUNCH SERVICES PROGRAM

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Mission Management	0	Mission LRD moved to July 09, sill further risk of moving with possible LRD in 2010. Mission LRD planing date now 22 May 2010, FPB action to confirm date by Oct 5, 2007. PMC planned for 30 October at HQ	WI	01/10/2007	11/02/2007
Business	Y	Possible increased LV and O&M costs due to proposed LRD in 2010,	WI	09/19/2007	10/01/2008

Sensitive But Unclassified

Aquarius - Significant Events

Accomplished	
Instrument PDR	06/28/2005-06/30/2005
Spacecraft PDR	08/03/2005-08/04/2005
Mission Confirmation Review held	09/28/2005
Program Intro / Range Concept Briefing at VAFB	12/16/2005
Quick turnaround CLA	
Instrucment CDR at JPL	09/18/2006-09/22/2006
TFA data delivery	9/11/2006
Deliver Final SSPP and Initial MSPSP to the Range	09/15/2006
JPL to perform RF monitoring at SSI and Astrotech	08/30/2006-08/31/2006
Kick-Off Meeting with ULA	March 2008-03/28/2008
IRD	07/13/2007-10/12/2007
Ground Ops/Launch vehicle TIM	October 2007
Full CLA planned prior to ATP	09/03/2007-12/10/2007
DPMC on schedule re-plan on 16 November	11/16/2007-11/30/2007

Planned	
SC Mission CDR	July 2008
ATP for mission	11/30/2007-11/30/2007
TPAF installation for EM in Brazil	05/29/2008
EM shock test	06/26/2008

BOSS AQUARIUS Schedule

LSP-F-330.02 Basic

4/16/08

ID	WBS	Name	Resp.	2007 Q3	2007 Q4	2008 Q1	2008 Q2	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3	2010 Q4	Q1
1		**BOSS Aquarius Schedule**								3/5							10/12	
2		**Baseline & Procure Launch Services Phase (~L-2 to 3 years)**								3/5				12/10				
3		START PHASE								3/5								
4	3.3.1	Assign LSTO Team	LSP							3/6	4/2							
5	3.3.2	Prepare Final SC IRD	MM							4/3	4/30							
6	3.3.3	Review Requirements & IRD	LSTO							5/1	5/28							
7	3.3.4	Submit IRD	SC							5/28								
8	3.3.5	Prepare/Review SC IRD & Hold IRD-ERB	TM							5/29	6/25							
9	3.3.6	Define LV Acquisition Strategy	LSTO							6/26	7/23							
10	3.3.7	Hold Kick-off GOWG	LSIM							3/5								
11	3.3.8	LSP PRCB for LV Acquisition Strategy	LSTO							7/24	8/20							
12	3.3.9	Prepare Sole Source Justification	LSTO							8/21	9/17							
13	3.3.10	LV Selection	HQ							9/18	10/15							
14	3.3.11	Hold Competition (Review IRD) (LSTO)	LSTO							7/24	8/20							
15	3.3.12	LSP PRCB for LV Selection	LSTO							8/21	9/17							
16	3.3.13	Present Findings to Flight Planning Board	LSTO							9/18	10/15							
17	3.3.14	Develop LSSP	LSIM							3/6	4/2							
18	3.3.15	"Prepare Cost Estimate, Customized Payment Schedule (if required) and	PIM							3/6								
19	3.3.16	Generate Configuration Action Request (CAR)	PIM							3/9	4/3							
20	3.3.17	Safety Requirements Tailoring	SC							5/29	6/25							
21	3.3.18	Preliminary SC MSPSP	SC							6/26	7/23							
22	3.3.19	LV Orbital Debris Assessment (ODA) (LV & SC)	TM							6/26	7/23							
23	3.3.20	SC CDR	SC							7/23								
24	3.3.21	Prepare Mission Approval Plan	MM							5/1	5/28							
25	3.3.22	LSP Confirm Manifest Launch Date	LSP							11/13	12/10							
26	3.3.23	LSP PRCB for ATP	MM							5/29	6/25							
27	3.3.24	Hold FPB ATP	MM							6/26	7/23							
28	3.3.25	Confirm Manifest Launch Date	HQ							10/16	11/12							
29	3.3.26	Place Mission on Contract	PIM							7/24	8/20							
30	3.3.27	Review SC Preliminary MSPSP	SMA							7/24	8/20							
31	3.3.28	Review Press Release	LSTO							10/16	11/12							
32	3.3.29	Phase Close-Out	MM							8/20								
33		**LV & SC Engineering & Manufacturing Phase (~L-27 months to ~L-3**								8/20					4/29			
34		START PHASE								8/20								
35	4.3.1	ATP the Mission & Secure Funding	PIM							8/21	9/17							

TM = Technical Management
HQ = NASA HQ & Mission Directorate
LD = Launch Director
LSP = LSP Mgmt
LSIM = Launch Site Integration Manager
LSTO = LSTO (Mini Source Board)
LV = Launch Vehicle Contractor
MM = Mission Manager
PIM = Program Integration Manager
SC = Spacecraft Project
SMA = Safety & Mission Assurance

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Aquarius Mission Management

Dave Breedlove

LAUNCH SERVICES PROGRAM

Mission	Aquarius
Launch Date	2010/05/23
Orbit Requirement	Sun Sync
Launch Vehicle Class	Delta II
Launch Period Window	
PPF	Commercial PPF
Mass (kg)	1675
PAD	SLC-2

AQUARIUS

	Mar	Apr	May
ICD	0	0	0

There are no signed SCNs	There are no SCNs in Review

Observatory Status	Mar	Apr	May
Observatory Status	G	G	G
Schedule	G	G	G
Budget	Y	Y	Y
Deliverables	G	G	G
Testing	G	G	G
ATLO	G	G	G
Instrument	G	G	G

Launch Vehicle Status			
Integrated Schedule	G	G	G
CDRLs (S/C & LSC)	G	G	G
Manifest/Range	G	G	G
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

Mission Center:	JPL
Program:	ESSP
PM	Amit Senn
LVI	Mike Davis
MM	Dave Breedlove
IE	Norman Beck, Jr.
LSIM	Mark Mertz
PIM	Shaqueena Lewis
MAM	Michael Johnson
MCE	Robert McEntire
MTE	Nathan Wood

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Aquarius - Engineering

Norman Beck, Jr.

	Mar	Apr	May
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	N/A	0	0
Payload Attach Fitting	G	G	G
Other	G	G	G
Mission Specific	G	G	G
Certification	N/A	0	0
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	0	0

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
Launch PAD sustainment support into 2010

MISSION UNIQUE STUDIES (IF APPLICABLE)
There are none.

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Aquarius - Mission ERB Status

Norman Beck, Jr.

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
G	08-55	Aquarius ICD Approval	☑	☐	☐	☑	☐	☐	☐	☐
G	07-05	Aquarius TPAF	☐	☑	☐	☑	☑	☐	☐	☐

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Aquarius - Vehicle ERB Status

Norman Beck, Jr.

There are no Vehicle ERBs for this mission.

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Aquarius - Launch Site

Mark Mertz

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
LSSP	G	G	G

LSSP	Planned	Released
Preliminary	11/2008	
Baseline	9/2009	

	Mar	Apr	May
CUSTOMER INPUTS	G	G	G

DELIVERABLES	Mar	Apr	May
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Mar	Apr	May
LAUNCH SITE UNIQUE	G	G	G
Propellant Services	G	G	G
PPF	G	G	G
Spacecraft OPS	G	G	G

Aquarius Budget Breakdown

Shaqueena Lewis

The launch service budget includes:

* **Mission Uniques**
  - Requirements necessary to customize basic vehicle hardware to met unique s/c driven requirements.
  - Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.
* **Integrated Services**
  - LSP contractor support service (ELVIS, CAPPS, JBOSC, KICs, etc).
  - USAF range costs attributable to the mission
* **Payload Processing Facility**
  - Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
  - Commercial facility: all other missions have been directed to process in a commercial facility;
  - Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.
* **Telemetry**
  - Assets required to meet minimum launch vehicle telemetry requirements.
  - Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
  - Limited flexibility requirements are often set late in the integration cycle.
* **Fly Out**
  - Costs that each mission in the 19-Pack must incur.
  - Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
  - Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
  - Pad Sustainability costs for SLC-2 and SLC-17.
  - No flexibility-contract costs
* **Nuclear**
  - RTG/RHU processing
  - RTG/RHU databooks and approval
  - Limited flexibility
* **Reimbursable**
  - Reimbursable FC for transportation, labor, and CMO.
* **Mission Flexibility**
  - Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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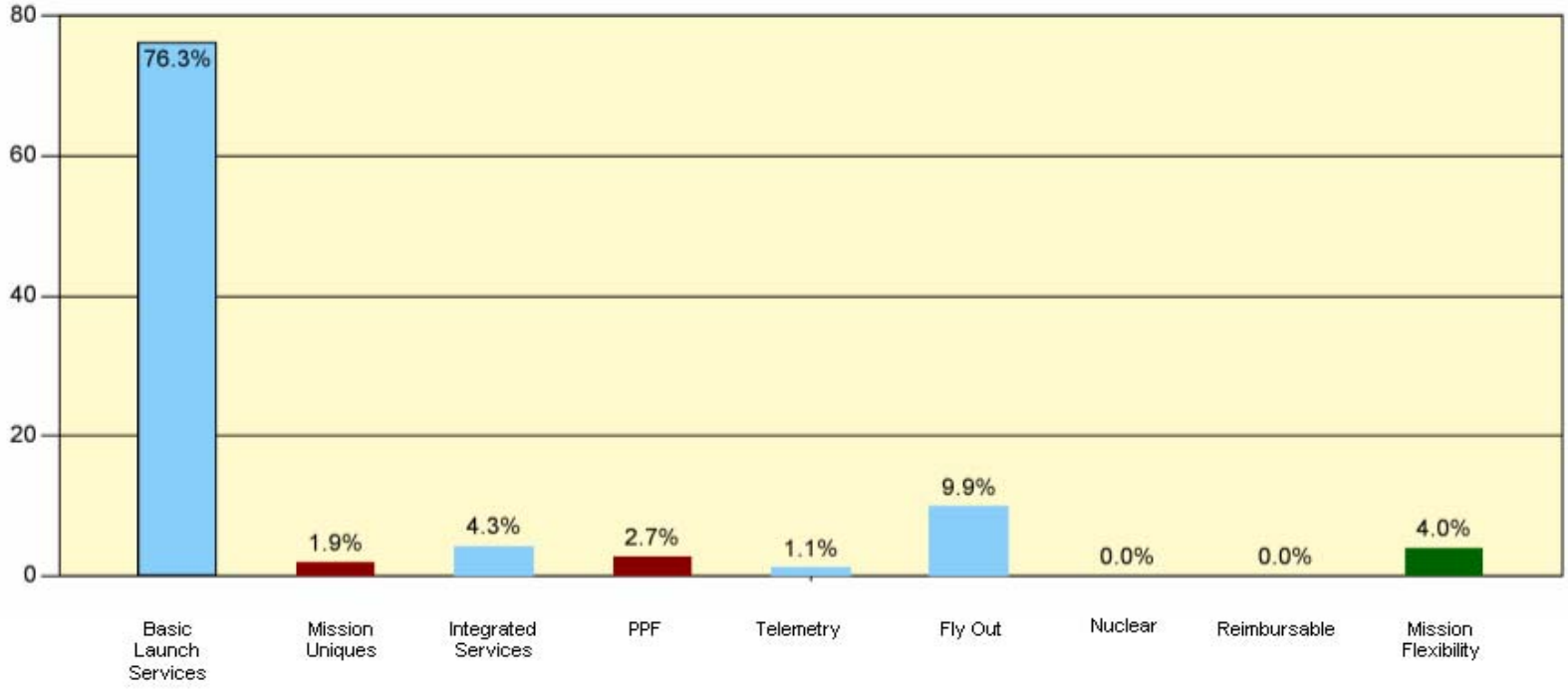
Launch Services Budget Breakdown

Aquarius Mission

Shaqueena Lewis

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 5 / 2008



- No flexibility; cost are fixed
- Limited Flexibility depending on spacecraft requirements
- Flexible portion of budget

Notes:

Mission Flexibility decreased from 4.2% to 4.0% due to an increase in Mission Unique requirements (Engineering Model Test Support TA).
Budget does not contain post-production support or pad maintenance for 2010 launch date. These costs are currently being developed by LSP.
Project is currently in early stages; requirements still being developed.

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Aquarius - Business

Shaqueena Lewis

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
Budget	Y	Y	Y
Contracts	G	G	G

Milestone	Date
Milestone 1	11/23/2007
Milestone 2	02/23/2008
Milestone 3	05/23/2008
Milestone 4	08/23/2008
Milestone 5	11/23/2008
Milestone 6	02/23/2009
Milestone 7	05/23/2009
Milestone 8	08/23/2009
Milestone 9	11/23/2009
Milestone: 10	02/23/2010
Milestone: 11	05/23/2010

Open Milestone Payment

Paid Milestone

Contract Status		
Launch Services		
Contract Mod	Number	Description
	219	NSS 20.2.3 Early Trajectory Analysis
	201	NSS 20.3.3 Quick Turnaround CLA
	311	NSS 20.3.4 Final Design Load Cycle
	313	Aquarius ATP
	198	NSS 32.1 VAFB Launch Site Maintenance and NSS 33.1 Post Production Support
	240	NSS 32.1 VAFB Launch Site O&M and NSS 33.1 Post Porduction Support
Contract Mod (LD)	Number	Description
	076	Delay from 9/07 to NET 3/1/08

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Contract Mod (LD)	Number	Description		
	136	Delay from 3/08 to 9/08		
	235	Delay from 9/30/08 to 3/23/09		
	264	Delay from 3/23/09 to 7/14/2009		
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB 178	Range Introduction meeting support	12/16/2005	01/06/2006
	NLSB 180	Accelerated Time Histories	03/10/2006	04/07/2006
	NLSB 197	Pre-ATP Support (export docs, travel)	12/03/2007	
	NLSB 208	Pre-ATP Shipping	01/31/2008	02/29/2008
	NLSB 314	Engineering Model Test Support	07/31/2008	
There are no PPF Contract Mods				
Contract Mod (Other)	Number	Description		
	NLSB 125	NSS 30.1 FY05 Flyout Costs		

	Issues
Y	First Delta II launch in 2010. Launch Pad maintenance cost and Post-production support costs are currently not fully known. Tech Evals in work. Working with ULA and USAF; hope to finalize in June.
G	Aquarius mission has 150 days of grace remaining and the next notification point for a potential launch delay is 05/22/2008 for either Government or Contractor (L-24 mo + 1 Day).
G	Invoice for milestone payment 2 has been received; invoice signed on 04/17/2008.

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Aquarius - Safety and Mission Assurance

Michael Johnson

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status: Complete	Status: In Work	Evidence of Completion	Mar	Apr	May
Quality				G	G	G
Software / Hardware Problems	☐	☑	No issues at this time	G	G	G
Alerts	☐	☑	No issues at this time	G	G	G
Audits/Inspections/Surveillances	☐	☑	No issues at this time	G	G	G
Limited Life Items	☐	☑	No issues at this time	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	☐	☑	No issues at this time	G	G	G
Reliability Assessments	☐	☑	No issues at this time	G	G	G
Safety				G	G	G
Requirements Definitions	☐	☑	No issues at this time	G	G	G
Range Safety & Mission Flight Rules	☐	☑	No issues at this time	G	G	G
Licenses/Use Authorizations	☐	☑	No issues at this time	G	G	G
Safety Documentation	☐	☑	No issues at this time	G	G	G
Non-compliances	☐	☑	No issues at this time	G	G	G
Contingency Planning	☐	☑	No issues at this time	G	G	G
Mission Assurance				G	G	G
Lessons Learned	☐	☑	No issues at this time	G	G	G
First Flight/Mission Unique items	☐	☑	No issues at this time	G	G	G
Test/Qualification/Certification	☐	☑	No issues at this time	G	G	G
Mission Assurance Assessments	☐	☑	No issues at this time	G	G	G
Risk Management	☐	☑	No issues at this time	G	G	G

Aquarius Comm & Telemetry

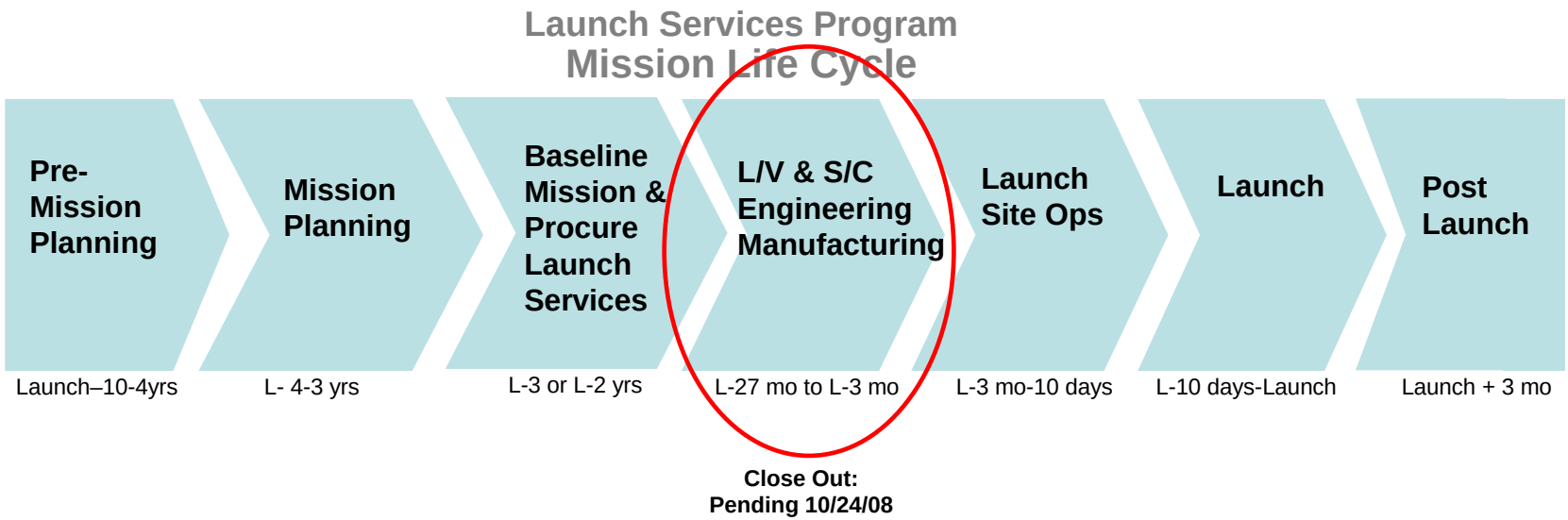
Robert McEntire and Nathan Wood

	Mar	Apr	May
Communications	0	0	0
Voice Comm	0	0	0
Data Comm	0	0	0
Networks	0	0	0
Video Comm	0	0	0
Timing	0	0	0
RF Comm	0	0	0
LSSP Comm Annex	0	0	0

	Mar	Apr	May
Telemetry	0	0	0
Decommutation Tables	0	0	0
Data Integrity Test	0	0	0
Software Lockdown	0	0	0
Software Inventory	0	0	0
Console Configuration	0	0	0
Console Checkout	0	0	0

OCO

Launch Date: 12/15/08



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OCO Project Summary

LAUNCH SERVICES PROGRAM

Mission	OCO
Launch Date	2008/12/15
Launch Vehicle	Taurus
Launch Period Window	TBD
PPF	ASO-VAFB

	Mar	Apr	May
OVERALL MISSION	Y	Y	R

MISSION MANAGEMENT	Mar	Apr	May
Observatory Status	G	G	G
Manifest/Range	G	G	G
Integrated Schedule	G	G	G
ICD	G	G	G
CDRLs (S/C & LSC)	G	G	G

LAUNCH SITE	Mar	Apr	May
LSSP	G	G	0
Customer Inputs	G	G	0
PPF	G	G	0
Launch Site Unique	G	G	0
Spacecraft OPS	G	G	0

SAFETY & MISSION ASSURANCE	Mar	Apr	May
Mission Assurance	G	G	G
Safety	G	G	G
Quality	Y	Y	Y
Reliability	G	G	G

ENGINEERING	Mar	Apr	May
Launch Vehicle	G	G	G
Mission Specific	G	G	G
Certification	Y	Y	R
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

COMM & TELEMETRY	Mar	Apr	May
Communications	G	G	G
Telemetry	0	0	0

BUSINESS	Mar	Apr	May
Budget	G	G	G
Contracts	G	G	G

DOWNRANGE TELEMETRY	Mar	Apr	May
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

LEGEND

Proceeding on Plan	G
Area of Concern	Y
Significant Problem	R
Not Evaluated	0
Not Applicable	N/A

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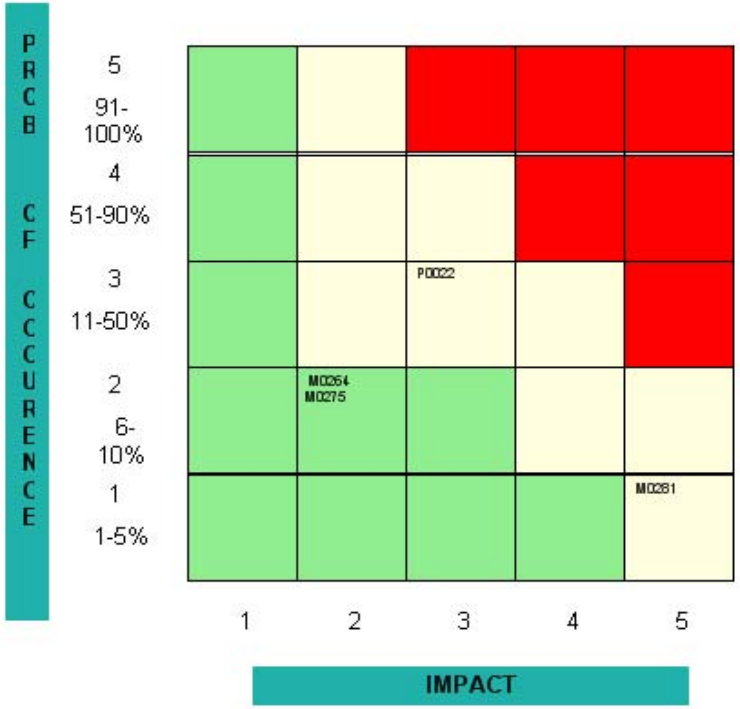
OCO - Open/Accepted Risks

RYG Trend	RiskID	Condition / Consequence
G	M0264	The OCO and Glory payload fairing (PLF) production schedules are ahead of the Ballast Ring Mission Unique design reviews. The outcome of the ballast ring design process impacts the location of the PLF doors which are described in the Mechanical ICDs.
		If the Ballast Ring design changes as an outcome of the design review process the OCO and Glory PLF cutouts (as defined in the MICD change) may not be located in the corrct position to support S/C access after PLF installation. Or, if the MICD is not approved by NASA, cost and schedule of PLF manufacturing may be impacted.
O	P0022	NASA Atlas and Taurus missions not spaced properly.
		definite shifts in NASA FPB manifest dates for missions affected.
G	M0275	The planned OCO Softride qualification testing levels envelope the expected flight vibration levels but not the higher S/C system vibration test levels.
		OCO spacecraft vibe may be delayed until OCO softride can be qualified to the higher levels.
Y	M0281	Contingency Fuel Off-load; If an OCO S/C N2H4 fuel tank leak were to occur, complete off-load of the fuel cannot be done while the S/C is horizontal or while stacked on the launch vehicle.
		Launch delay due to resulting defueling plan execution and subsequent leak repair.



OCO - Actions / Issues / Concerns

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	S/C Elec Umb reqmts exceed Taurus umb capability at pad. LSG developing mod to umbilicals. 2/12/07 GM, received prelim design from Orbital, in eng assessment. 6/13/07 GM ERB scheduled Sep 07. 9/17/07 JBM Sep 07 ERB postponed. 2 of 4 cable drawing avail. Two more dwgs NET 6/08. Impacts KSC MUCDR prep & schedule.	ERS-06-328	05/03/2006	3/31/2008
Engineering	G	MICD ICP approval for fairing door location change needed by Aug. 6, 2007. This is before MUPDR and MUCDR. Engineering decided not to approve the ICP at this time due to technical risk of proceeding with fairing manufacturing prior to completing ballast ring design. Risk sheet M0264. 8/29/07: MICD ICP#3 was signed by KSC for OCO on 8/14/07. MUPDR for Ballast Ring completed 8/28/07. 2/14/08 JBM: MUCDR completed 1/31/08, good. PLF doors are where they need to be, risk did not materialize.	RISK M0264	8/13/07	06/01/2008
Engineering	G	Manufacturing process vulnerability in which Pacific Scientific detonators that have been reworked may have been inadvertently returned to production without the correct load of explosive material. Risk accepted for AIM. OCO mission assessments of this risk item is ongoing as WI. Fleet risk V0048 closed 3/23/07. Final OCO resolution requires flight specific parts list.	WI	3/23/07	9/15/08
Engineering	G	The currently planned OCO Softride isolator qualification testing envelopes the predicted OCO flight levels, but does not envelope the proposed JPL S/C system vibration test levels. The OCO S/C system vibration test may be delayed until the Softride isolator can be shown qualified to the higher JPL S/C test levels. (OCO S/C system vibration test planned for April 08). 5/8/08 JBM, Testing complete and passed. Risk still open.	RISK M0275	1/11/08	06/01/2008

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	R	Certification of Taurus XL lauch vehicle is proceeding in parallel with OCO mission development. New risk being written, Vxxxx. Cert completion date projected as 11/23/08 for 12/15/08 launch	Risk Vxxxx	2/14/08	12/15/08
Engineering	R	LSP chief Engineers Office directed a comprehensive mission peculiar review for all MU items as a group, not individually. Draft SOW nearly complete. Will add ERS when SOW proposal is approved (currently R&R under ERS 07-190 MUCDR). (5/8/08, J. Hoffman) SOW (Rev 2)is out of Contracts and now awaiting OSC/LSG response.	ERS 07-190	3/5/08	6/15/08
Engineering	G	Observatory vibe testing ending in June with little margin to update FEM for 25 July 08 need date to start VLC. 5/8/08 JOH, Vibe testing on schedule w/acceptable margin	WI	04/16/2008	7/25/08/
Engineering	Y	For an OCO s/c hydrazine leak complete offload of the fuel cannot be done while the S/C is in the horizontal position (integration tent) or stacked on the Taurus launch vehicle	Risk M0281	5/9/08	9/7/08
Mission Management	Y	The western range planning a shutdown over current OCO LRD planning date of 15 December 08, current plan is to secure 7 December 08 LRD which put pressure on spacecraft delivery and Taurus cert completion	WI	05/14/2008	07/01/2008

OCO - Significant Events

Accomplished	
PCLA	1/23/07
Bus CDR	02/15/2006-02/16/2006
MICD released	01/11/2007
MIssion CDR	08/21/2006-08/24/2006
EICD released	01/23/2007
TFA	01/25/2007
Mission ICD released	04/12/2007
T8/T9 Ballast Ring MUCDR	1/31/08
PMA	9/20/07
GOWG at VAFB	02/05/2008-02/07/2008
Softride Isolator CDR	12/11/2007
Softride Isolator CDR/ERB Reconvene	3/14/2008-03/14/2008
OCO PPF awarded	01/07/2008
ITA	8/9/07
Sep Analysis	8/7/07
Mission ICD Update, Rev A	4/4/08
MICD Update, Rev A	4/1/2008
EICD Update, Rev A	2/26/08

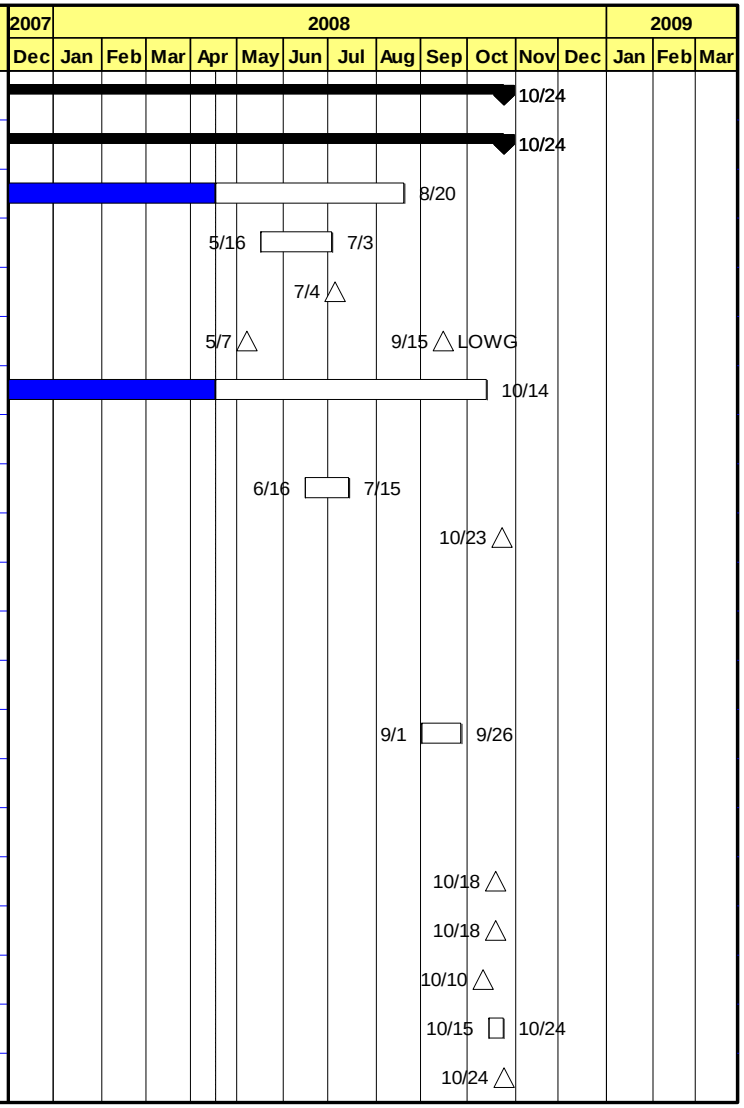
Planned	
T8/T9 MUSAR	8/28/08
CLA	9/3/08
FMA	9/3/08
RF Link Analysis	10/14/08
Flight Controls Analysis	10/14/08
Comprehensive Mission Unique Review. SOW submitted to LSG.	03/26/2008-06/13/2008

BOSS OCO Schedule

LSP-F-330.02 Basic

4/16/08

ID	WBS	Name	Resp.
1		**BOSS OCO Schedule**	
2		**LV & SC Engineering & Manufacturing Phase (~L-27 months to ~L-3 months)**	
3	4.3.7	LV Mfg	LV
4	4.3.27	LV Components arrives at Launch Site	LV
5	4.3.28	Publish Baseline LSSP	LSIM
6	4.3.29	GOWG	LSIM
7	4.3.30	Prepare PPF & services for GSE/SC arrival	LSIM
8	4.3.31	Comm & Telemetry Reviews	LSIM
9	4.3.32	Review S/C Final MSPSP	SMA
10	4.3.33	GOR	LSIM
11	4.3.34	Process Launch Delays as needed	PIM
12	4.3.35	Track Milestone Payments	PIM
13	4.3.36	Procure Deployable & Fixed Telemetry Assets	PIM
14	4.3.37	Begin Access Badging & Training	LSIM
15	4.3.38	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev, Des Rev, Qual)"	TM
16	4.3.39	Payload-LV Fitcheck	TM
17	4.3.40	MIWG	MM
18	4.3.41	Safety TIMS PSWG	SMA
19	4.3.42	S/C PreShip Review	SC
20	4.3.43	S/C Ships	SC
21	4.3.44	Phase Close-Out	MM



TM = Technical Management
HQ = NASA HQ & Mission Directorate
LD = Launch Director
LSP = LSP Mgmt
LSIM = Launch Site Integration Manager
LSTO = LSTO (Mini Source Board)
LV = Launch Vehicle Contractor
MM = Mission Manager
PIM = Program Integration Manager
SC = Spacecraft Project
SMA = Safety & Mission Assurance

John F. Kennedy Space Center

OCO Mission Management

Dave Breedlove

LAUNCH SERVICES PROGRAM

Mission	OCO
Launch Date	2008/12/15
Orbit Requirement	705 km / 98.2 deg incl
Launch Vehicle Class	Taurus
Launch Period Window	TBD
PPF	ASO-VAFB
Mass (kg)	444 kg (TB
PAD	567E

	Mar	Apr	May
ICD	G	G	G

Observatory Status	Mar	Apr	May
Observatory Status	G	G	G
Schedule	G	G	G
Budget	G	G	G
Deliverables	G	G	G
Testing	G	G	G
ATLO	G	G	G
Instrument	G	G	G

Launch Vehicle Status			
Integrated Schedule	G	G	G
CDRLs (S/C & LSC)	G	G	G
Manifest/Range	G	G	G
Ground Stations	0	0	0
Deployables	0	0	0
P-3/OTTR	0	0	0

Mission Center:	JPL
Program:	ESSP
PM	Tom Livermore
LVI	Mike Davis
MM	Dave Breedlove
IE	Jim Hoffman
LSIM	Julie Schneringer
PIM	Ken Carr
MAM	Laura McDaniel
MCE	Ralph Mikulas
MTE	Nathan Wood

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SIGNED SCNS:		SCNS IN REVIEW	
SCN #	DATE SIGNED	SCN #	DATE SIGNED
ICP-01. EICD	02/13/2007	ICP-12, Mission ICD	
ICP-02, EICD	02/13/2007	ICP-13, Mission ICD	
ICP-003, MICD	08/14/2007	ICP-005, MICD	
ICP-001, MICD	9/10/07	ICP-04, EICD	
ICP-002, MICD	8/28/07		
ICP-03, EICD	1/29/08		
ICP-4, MICD	1/29/08		

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OCO - Engineering

Jim Hoffman

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	G	G	G
Payload Attach Fitting	G	G	G
Other	G	G	G
Mission Specific	G	G	G
Certification	Y	Y	R
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	181
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
Umbilical Harness Mod
GSE Payload Fairing Doors

MISSION UNIQUE STUDIES (IF APPLICABLE)
There are none.

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OCO - Mission ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
G	06-314	OCO ICD Review	☑	☐	☑	☐	☐	☐	☐	☐
G	06-328	OCO Umbilical Harness Modification	☑	☐	☐	☑	☐	☐	☐	☐
G	07-189	Taurus T8/T9 MUPDR (Ballast Ring)	☑	☐	☑	☐	☐	☐	☐	☐
G	07-190	Taurus T8/T9 MUCDR (Ballast Ring)	☑	☐	☑	☐	☐	☐	☐	☐
G	07-191	Taurus T8/T9 MUSAR (Ballast Ring)	☑	☐	☐	☑	☐	☐	☐	☐
G	07-302	T-0 Purge for Glory & OCO Missions	☑	☐	☐	☑	☐	☐	☐	☐

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OCO - Vehicle ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

			ERB Req?		Board Held?			Closure		
R/Y/G	ERS #	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
G	07-113	Safe & Arm (New Build) Process Review	☑	☐	☑	☐	☐	☑	☑	☑
G	07-325	Taurus XL Core Fleet: Coupled Loads IV&V	☑	☐	☐	☑	☐	☐	☐	☐
G	07-328	Taurus XL Core Fleet : 7Ah Avionics Battery, Taurus First Flight, OCO/Glory	☑	☐	☐	☑	☐	☐	☐	☐
G	08-14	Taurus XL Core Fleet: Taurus XL Upper stage Thermodynamics IV&V	☑	☐	☐	☑	☐	☐	☐	☐
G	07-361	Hot Gas Generator Addition of Debris Catcher (fairing sep, T8 first flight)	☑	☐	☐	☑	☐	☐	☐	☐
G	08-12	Taur Peg XL Core Fleet: Marotta Regulator Oscillations	☑	☐	☐	☑	☐	☐	☐	☐

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OCO - Launch Site

Julie Schneringer

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
LSSP	G	G	0

LSSP	Planned	Released
Preliminary	07/2007	08/27/2007
Baseline	05/15/2008	

	Mar	Apr	May
CUSTOMER INPUTS	G	G	0

DELIVERABLES	Mar	Apr	May
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Mar	Apr	May
LAUNCH SITE UNIQUE	G	G	0
Encapsulation in PPF	G	G	0
PPF	G	G	0
Commercial PPF	G	G	G
Spacecraft OPS	G	G	0
Fueling	G	0	0

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OCO Budget Breakdown

Ken Carr

The launch service budget includes:

* **Launch Services**
  - Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.
  -
  -
* **Mission Uniques**
  - Requirements necessary to customize basic vehicle hardware to met unique s/c driven requirements.
  - Other services directly attributable to the mission.
  - Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.
* **Integrated Services**
  - LSP contractor support service (ELVIS, CAPPS, JBOSC, KICs, etc).
  - USAF range costs attributable to the mission
  - Limited flexibility
* **Payload Processing Facility**
  - Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
  - Commercial facility: all other missions have been directed to process in a commercial facility;
  - Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.
* **Telemetry**
  - Assets required to meet minimum launch vehicle telemetry requirements.
  - Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
  - Limited flexibility requirements are often set late in the integration cycle.
* **Fly Out**
  - Costs that each mission in the 19-Pack must incur.
  - Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
  - Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
  - Pad Sustainability costs for SLC-2 and SLC-17.
  - No flexibility-contract costs
* **Nuclear**
  - RTG/RHU processing
  - RTG/RHU databooks and approval
  - Limited flexibility
* **Reimbursable**
  - Reimbursable FC for transportation, labor, and CMO.

* **Mission Flexibility**
  - Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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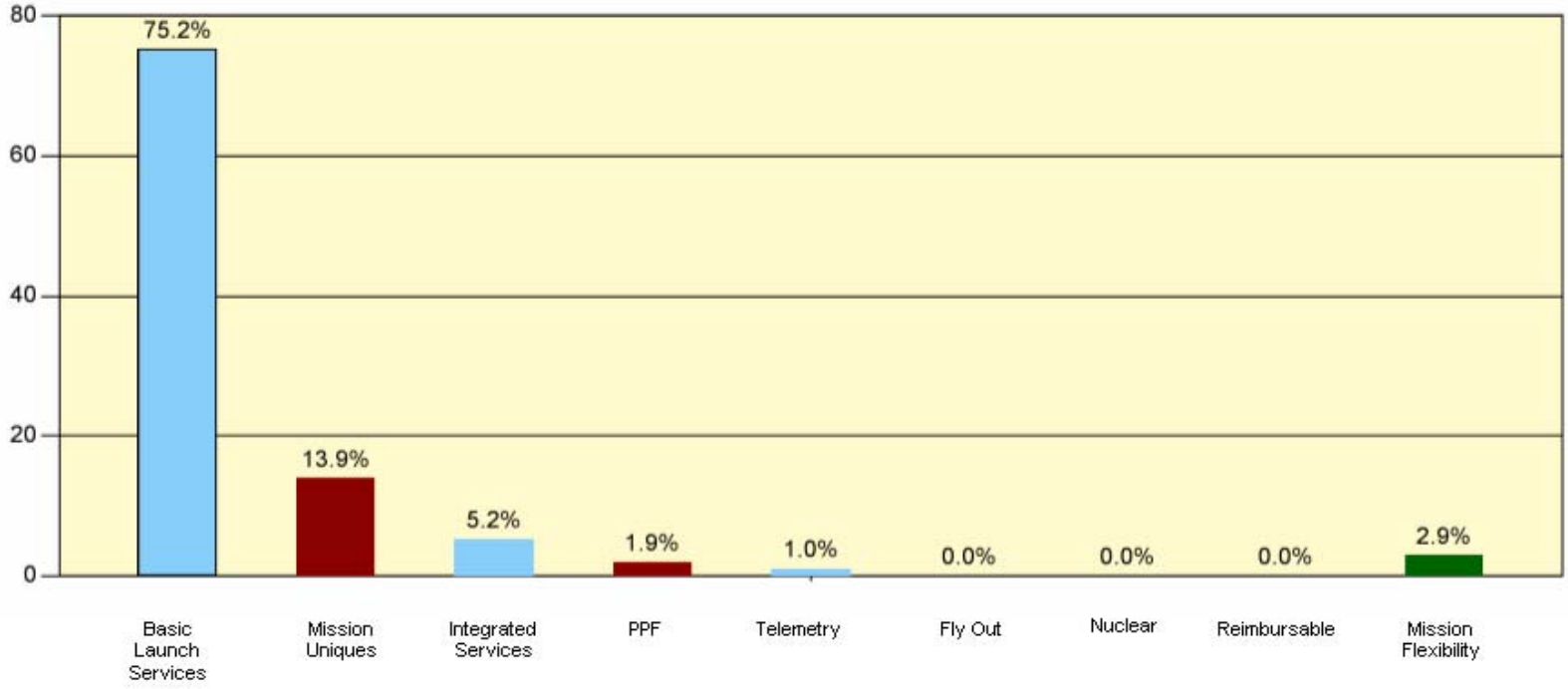
Launch Services Budget Breakdown

OCO Mission

Ken Carr

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 5 / 2008



No flexibility; cost are fixed

Limited Flexibility depending on spacecraft requirements

Flexible portion of budget

Notes:

Variance: Mission Flexibility reduced from 3.2% to 2.9% due to added costs from the LEV Power Upgrade, GSE Contingency Faring Doors, and Spacecraft Environmental Test Support.

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OCO - Business

Ken Carr

LAUNCH SERVICES PROGRAM

	Mar	Apr	May
Budget	G	G	G
Contracts	G	G	G

Milestone	Date
Milestone 1A	11/15/2003
Milestone 1B	11/15/2004
Milestone 1C	11/15/2004
Milestone 1D	8/1/2005
Milestone 2A	10/15/2005
Milestone 2B	11/15/2005
Milestone 2C	02/15/2006
Milestone 2D	02/15/2006
Milestone 2E	10/15/2006
Milestone 3A	11/15/2006
Milestone 3B	11/15/2006
Milestone 4	04/15/2007
Milestone 5	08/15/2007
Milestone 6	06/15/2008
Milestone 7	09/15/2008
Milestone 8	11/15/2008
Milestone 9	02/15/2009

Open Milestone Payment

Paid Milestone

Contract Status

Launch Services

Contract Mod	Number	Description
	Mod 10	Launch delay from 08/13/2007 - 09/15/2008 and Softride addition
	Mod 17	Test Payload Adapter Fitting support
	Mod 24	Addition of non-standard services: Umbilical harness,Test Isolators & Instrument Purge
	Mod 31	Ballast Ring for launch vehicle
	Mod 34	Isolator Delta Qual Testing
	Mod 36	Launch Delay from 9/15/08 to 12/15/08

There are no LD Contract Mods

Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	SP-24.001	Soft-Ride coupled loads analysis using XL environment	12/23/2005	
	SP-24.002	Upper stage motor production hold (non-mission funds)	10/7/2005	
	SP-24.003	RF/EMI compatibility study	12/15/2006	
	SP-24.004	Payload CDR Support	8/31/2006	
	SP-24.005	Umbilical connector test support	4/6/2007	
	SP-24.006	Trajectory Feasibility Study	2/28/2007	
	SP-24.007	OCO Environmental Test Support	Active	

Contract Mod (PPF)	Number	Description
	NNK07LA79B	OCO Payload Processing Facility Task Order

There are no Other Contract Mods

	Issues
G	Launch Delay Rate increase at L-180 days to $12K/day - 30 days of grace remain

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OCO - Safety and Mission Assurance

Laura McDaniel

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status: Complete	Status: In Work	Evidence of Completion	Mar	Apr	May
Quality				Y	Y	Y
Software / Hardware Problems	☐	☑	The Taurus vehicle is under certification efforts by LS SMA and NASA LSP. Due to outstanding Data Requests for Taurus vendors from previous site visits, all hardware and software fabrication operations are not fully certified.	Y	Y	Y
Alerts	☐	☑	No issues	G	G	G
Audits/Inspections/Surveillances	☐	☑	No issues or concerns	G	G	G
Limited Life Items	☐	☑	No issues	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	☐	☑	Failure analyses assessments have been initiated along with vehicle certification planning	G	G	G
Reliability Assessments	☐	☑	Reliability assessment for certification is in progress. Design Reliability Report (DRR) from Orbital was received 11/16/07. The revised DRR (based on TIM comments) is expected before 6/15/08.	G	G	G
Safety				G	G	G
Requirements Definitions	☐	☑	EWR 127-1 Requirements Checklist - Completed. Out for Review.	G	G	G
Range Safety & Mission Flight Rules	☐	☑	In Work (Range Safety)	G	G	G
Licenses/Use Authorizations	☐	☑	In work	G	G	G
Safety Documentation	☐	☑	Comments submitted for preliminary MSPSP	G	G	G
Non-compliances	☐	☑	S/C: Range Safety Waiver to be written for spacecraft contingency offload; ELV Risk M0281 submitted for OCO & Glory (Taurus).	G	G	G
Contingency Planning	☐	☑	OCO Contingency Off-load Plan being drafted.	G	G	G
Mission Assurance				G	G	G
Lessons Learned	☐	☑	No previous NASA Taurus missions - Other KSC LLs will be reviews/addressed	G	G	G
First Flight/Mission Unique items	☐	☑	Certification Effort in work	G	G	G
Test/Qualification/Certification	☐	☑	Certification Effort in work	G	G	G
Mission Assurance Assessments	☐	☑	No issues	G	G	G

Risk Management	☐	☑	Risk Management System is working properly	G G G

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OCO Comm & Telemetry

Ralph Mikulas and Nathan Wood

	Mar	Apr	May
Communications	G	G	G
Voice Comm	0	0	0
Data Comm	0	0	0
Networks	0	0	0
Video Comm	0	0	0
Timing	0	0	0
RF Comm	0	0	0
LSSP Comm Annex	0	0	0

	Mar	Apr	May
Telemetry	0	0	0
Decommutation Tables	0	0	0
Data Integrity Test	0	0	0
Software Lockdown	0	0	0
Software Inventory	0	0	0
Console Configuration	0	0	0
Console Checkout	0	0	0