

MEETING & REVIEW SCHEDULE

The table below provides an overview of the meetings and reviews and their flow during mission processing. Click on the hyperlinks to view more detailed information contained in the Meeting/Review Description Tables in the following pages.

Mission Planning	1. Spacecraft Preliminary Design Review (PDR)	(Approx. L-3 or L-2 yrs)
Baseline & Procure Launch Service	2. Spacecraft Critical Design Review (CDR)	(Approx. L-27 mos)
Launch Vehicle & Spacecraft Engineering & Manufacturing Phase	3. Mission Integration Working Group (MIWG)	
	4. Integration Telecons	
	5. Technical Interchange Meeting (TIM)	
	6. Ground Operations Working Group (GOWG)	
	7. Preliminary Design Review (PDR) and Critical Design Review (CDR)	
	8. Design Certification Review (DCR)	
	9. Ground Operations Review (GOR)	
	10. Spacecraft Pre-Ship Review	
Launch Campaign Begins		(Approx. L-30 to 60 days)
Launch Site Operations Phase	11. Pre-Vehicle on Stand (Pre-VOS) or Sys Review or LV Mission Readiness Review	
	12. Launch Vehicle Readiness Review (LVRR)	
	13. S/C Flight Readiness Review (FRR) – formerly Mission Readiness Review	
	14. Safety & Mission Success Readiness Review (SMSR)	
	15. Mission Review/Readiness Briefing (MRB)	(Approx. L-10 days)
Launch Phase	16. L/V Flight Readiness Review (FRR)	
	17. Launch Management Coordination Meeting (LMCM)	
	18. Mission Dress Rehearsal (MDR)	
	19. Launch Readiness Review (LRR)	

MEETING/REVIEW FLOW CHART

MEETING / REVIEW DESCRIPTION TABLE

Meeting Name	Purpose / Agenda	When	Attendees
1 Spacecraft Preliminary Design Review (PDR)	KSC attendees provide launch site processing and launch vehicle expertise to spacecraft team and gain an early understanding of processing requirements.	Usually 3-4 years before launch.	SC hosts review; KSC MIT (as required), and Spacecraft invitees.
2 Spacecraft Critical Design Review (CDR)	KSC attendees continue to provide launch site processing and vehicle expertise to spacecraft team and present early assessment of processing requirements.	Usually 2-3 years before launch.	SC hosts review; KSC MIT (as required), Range Safety, and Spacecraft invitees.
3 Mission Integration Working Group (MIWG)	<p>Formal gathering to review progress of the integration process and program/technical status of the mission.</p> <p>Review integration aspects of mission first flight items and discuss interface details in depth.</p> <p>Rotate meeting locations between participating organizations.</p>	<p>Approximately every 4-6 months.</p> <p>Frequency and location can be spelled out in LSP contract.</p>	KSC MIT (as required), Spacecraft, Spacecraft Contractor, and Launch Service Provider.
4 Integration Telecons	Telecons held to define and integrate spacecraft and launch vehicle requirements. Also used to define spacecraft launch site requirements.	Frequency varies, typically monthly or every two weeks.	KSC MIT (as required), Spacecraft, Spacecraft Contractor, and Launch Service Provider.

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<p>5 Technical Interchange Meeting (TIM)</p>	<p>Detailed review of technical aspect of the Mission, Interface or Launch Vehicle.</p>	<p>As Required or in conjunction with MIWG or GOWG</p>	<p>As required for topics discussed: KSC MIT (as required), Spacecraft, Spacecraft Contractor, and Launch Service Provider.</p>
<p>6 Ground Operations Working Group (GOWG)</p>	<p>Formal gathering to review progress of ground operations plans and field site integration process. Discuss launch site processing requirements, safety, training, transportation, badging, etc.</p>	<p>Approximately every 4 -12 months depending on nearness of launch date.</p>	<p>KSC MIT (as required), Spacecraft Project, Spacecraft Contractor, Launch Service Provider, and Range Safety.</p>
<p>7 Launch Vehicle Mission Specific Hardware/Software Reviews</p>	<p>Review the implementation of mission requirements on the launch vehicle. Review encompasses the design and qualification of mission hardware and software, including supporting analyses that verify the design will meet the functional requirements. For some contractors, a separate PDR and CDR are held if the modifications to the LV are significant. In other cases, a single review or series of focused Design TIMs are held in their place, which accomplish the intent.</p>	<p>Variable, but typically the PDR is held when the requirements are well defined and initial preliminary design is complete. The CDR is held when the majority of the engineering is ready for drawing release.</p>	<p>Chaired by NASA LSP Chief Engineer; Launch Service Provider; KSC MIT; vehicle systems engineers; mission analysts; Spacecraft; Spacecraft Contractor.</p>

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8 Design Certification Review	A post-hardware/software build review is held prior to first usage to certify that the hardware/software was built to meet specifications and complies with final CDR.	Variable, but after hardware build. The LSP Director will approve the need for this review.	Chaired by NASA LSP Chief Engineer; Launch Service Provider; KSC MIT; vehicle systems engineers; mission analysts; Spacecraft; Spacecraft Contractor.
9 Ground Operations Review (GOR)	Determine Launch Site readiness for S/C arrival and processing.	Approx. 30 days prior to S/C arrival at launch site.	Chaired by Launch Site Integration Branch Chief. Participants: KSC MIT, Spacecraft, Spacecraft Contractor, Launch Service Provider, and Public Affairs.
10 Spacecraft Pre-Ship Review	Spacecraft Project review of the readiness to ship the spacecraft to the launch site for system tests and launch preparation.	Approx L – 60-90 days. (Usually 2-4 weeks before arrival at launch site - the same time as the GOR.)	Chaired by Sponsoring NASA Center's Program Management Council (PMC) or designee (Appointed Board). Participants: Spacecraft Project, KSC MIT, and Spacecraft invitees.

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<p>11</p> <p>Pre-Vehicle on Stand (Pre-VOS/Delta) Systems Review (Atlas) L/V Mission Readiness Review (Pegasus/Taurus)</p>	<p>Obtain concurrence to erect L/V on pad, or to continue with L/V processing at the field site.</p> <p>Review includes mission overview, mission analysis, vehicle hardware and software, status on the factory buildup and launch site schedule.</p>	<p>L- 30 to 60 days</p> <p>(Usually held at LV manufacturing or engineering design center.)</p>	<p>Chaired by LSP Chief Engineer & NASA Launch Manager or designees.</p> <p>Participants: Launch Service Provider, KSC, and S/C Project</p>
<p>12</p> <p>L/V Readiness Review (LVRR)</p>	<p>To certify readiness to proceed with S/C - L/V integration activities.</p> <p>Launch Services Program's concurrence to proceed with processing of the L/V and S/C.</p> <p>Review mission integration, significant open action items, configuration, first flight items, significant hardware issues, schedule, tracking support, range support, public affairs, and constraints to launch.</p>	<p>Approx. L – 45 days</p>	<p>Chaired by LSP.</p> <p>Presented by LSP Program elements to LSP Program and KSC senior management.</p> <p>Participants: KSC, HQ, S/C Project.</p>
<p>13</p> <p>S/C Flight Readiness Review (FRR) (formerly Mission Readiness Review MRR)</p>	<p>S/C Project seeks approval from PMC to continue S/C processing toward the Flight Readiness Review (FRR).</p> <p>S/C team presents/dispositions any open items to management and review panel to gain approval for transport to launch site.</p>	<p>Approx. L-30 days Typically after the Pre-VOS/System. Review/L/V MRR and LVRR.</p>	<p>S/C hosts prior to shipping to launch site. Chaired by Sponsoring NASA Center's Program Management Council (PMC) or designee (Appointed Board).</p> <p>Participants: KSC MIT,NLM, NASA HQ, and S/C Project.</p>

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<p>14 Safety and Mission Success Readiness Review (SMSR)</p>	<p>To assess, independently from the project/program, the satisfactory completion of all activities necessary to provide an acceptable level of confidence in mission success. The SMSR is used by The Office of Safety and Mission Assurance to independently assess mission preparation status, open work, technical and programmatic issues and concerns, corrective actions and the consolidated mission probability of success of the spacecraft and vehicle.</p>	<p>Approx. L - 30 days</p>	<p>Chaired by: The Office of Safety and Mission Assurance and NASA Chief Engineer Participants: LSP, KSC Safety and Mission Assurance, S/C Project and S/C Safety and Mission Assurance</p>
<p>15 Mission Review/ Readiness Briefing (MRB)</p>	<p>Mission seeks approval from HQ to continue processing towards launch. S/C and L/V provide summary of any open issues or liens against launch.</p>	<p>Approx L-2 weeks</p>	<p>Chaired by NASA HQ Mission Directorate Participants: KSC, MM, NLM, Prog Mgr or Dpty, S/C Project, HQ</p>
<p>16 Flight Readiness Review (FRR)</p>	<p>Certify readiness to proceed with spacecraft and launch vehicle processing towards launch. Review closeout of readiness review action items, assembly, check out and anomalies of vehicle and spacecraft, tracking support, range support, open work, and launch constraints.</p>	<p>L -5 days</p>	<p>Chaired by NASA Launch Manager or designee. Participants: LSC, Range, LSP, Weather Officer, and Spacecraft Program Office, and NASA HQ.</p>

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17 Launch Management Coordination Meeting (LMCM)	Brief the launch day management team and familiarize them with all aspects of launch countdown.	L – 3 to 5 days (Sometimes two sessions, one at approx. L-30 days)	Chaired by NASA Launch Manager Participants: KSC Launch Team, Spacecraft Project, LSC Launch Team
18 Mission Dress Rehearsal (MDR)	Familiarize the launch day team with the countdown and communication by performing a simulated launch.	L - 2 to 3 days (Sometimes two rehearsals within L-30 days)	LSC Launch Conductor and LOM/LSIM coordinate Rehearsal for entire launch team.
19 Launch Readiness Review (LRR)	Authorize approval to proceed into launch countdown and signature of the Flight Certification Document. Review final Mission readiness and closeout all action items.	L – 1 day	Chaired by the NASA/HQ AAA for Launch Services and Spacecraft Mission Director. Presented by LSC, Range, Weather Officer, Public Affairs.