Review Process

Version 1.0

Author(s): Ayaaz Yasin

Full-Scale Mission Concept Review (MCR)

- Mission objectives
- Expectations
- Concepts for meeting expectations

Prototype Mission Concept Review (MCR)

- Mission objectives
- Expectations
- Concepts for meeting expectations

System Requirements Review (SRR)

- Functional requirements
- Non-functional requirements
- Review requirements to satisfy the mission.

Mission Definition Review (MDR)

- Examine mission architecture.
- Create a detailed flow down of all functional (operations) elements to ensure mission concept is complete, feasible, and consistent with the available resources.
- Functional Elements: Timeline, safety approval, fundraising plan.

System Design Review (SDR)

- Examine the proposed system architecture and design and the flow down to all functional elements of the system.

Preliminary Design Review (PDR)

- Show that the proposed design is expected to meet the functional and performance requirements.
  - With acceptable risk.
  - Within the cost and schedule constraints.
  - Establish the basis for proceeding with detailed design.
  - Describe methods of verification.
- Show sufficient maturity in the proposed design approach to proceed to the final design.

- Show that the design is verifiable and that the risks have been identified, characterized, and mitigated where appropriate.
- Test plans and safety approval for component testing.

Critical Design Review (CDR)

- Demonstrates that the maturity of the design is appropriate to support proceeding with full-scale fabrication, assembly, integration, and test.
- Determines that the technical effort is on track to complete the flight and ground system development and mission operations, meeting mission performance requirements within the identified cost and schedule constraints.
- Ensure that the "build-to" baseline contains detailed hardware and software specifications that can meet functional and performance requirements.
- Ensure that the design has been satisfactorily audited by Manufacturing, Operations, and the Advisory Panel.
- Establish a Quality Assurance (QA) plan.
- Verify that the final design fulfils the specifications established at PDR.

Production Readiness Review (PRR)

- Ensure the production processes and controls are sufficient to proceed to fabrication.
- Determine the readiness of manufacturing resources and personnel.
- Define production plans; fabrication, assembly, and integration.
- Review cost and production schedule from the CDR.

Post-Fabrication Review (PFR)

- Document accuracy of fabrication, assembly, and integration.
- Document delays and operational issues in fabrication.
- Test plan for non-flight testing.
- Data acquisition plan for non-flight testing.

System Acceptance Review (SAR)

- Verify the completeness of the specific end products in relation to their expected maturity level and assesses compliance to expectations listed in MCR.
- Examine the system, its end products and documentation, and test data. It also ensures that the system has sufficient technical maturity to authorize a designated operation.

Operational Readiness Review (ORR)

- Examine actual system characteristics.
- Establish that the system is ready to transition into an operational mode through an examination of the available ground and flight test results, analyses, and operational demonstrations.
- Confirm that the system is operationally and logistically supported in a satisfactory manner considering all modes of operation and support (normal, contingency, and unplanned).
- Establish that operational documentation (including safety protocols) is complete and represents the system configuration and its planned modes of operation.
- Establish plans for system maintenance, preparation, operation, and recovery.

Flight Readiness Review (FRR)

- Receive certification that flight operations can safely proceed with acceptable risk.
- Confirm that the system and support elements are properly configured and ready for flight.
- Establish that all interfaces are compatible and function as expected.
- Establish go/no-go criteria.
- Establish that the system state supports a launch "go" decision based on the go/no-go criteria.

Test Readiness Review (TRR)

- Define test plans; flow chart,
  - Hardware & software readiness.
  - Test procedures.
  - Data acquisition plan.
  - Test facility.

Final Report

- Conclusion
- Test data analysis.