

HMI Instrument System Requirements Review Session
Stanford University, HEPL Conference Room
Thursday 13 March 2003; 9:00 am (coffee available at 8:45 am)

Science Requirements – SU (P. Scherrer – 30 min)

- Level 1 – science requirements
- Level 2 – primary observables
- Instrument Science Performance Key Requirements
- Science Data Products
- Minimum Mission

Overview of Instrumenter's Requirements Process - LMSAL (B. Carpenter – 20 min)

- Requirements Flow Down Diagram
- Requirements Document Tree
- Current Status
- Requirements Sources
 - Science Level 1s
 - SDO Mission Requirements Document
 - SDO Mission Assurance Requirements
 - Environmental Test Requirements

Instrument Performance and Functional Requirements – SU/LMSAL (45 min)

J. Schou

- Top Level Instrument Performance Requirements (The Level 2 Instrument Science Performance Key Requirements)
- Top Level Instrument Functional Requirements

L. Springer

- Subsystem Top Level Performance Requirements (Level 3s)
- Subsystem Top Level Functional Requirements including Flight Software

Instrument Interface Requirements – LMSAL (L. Springer – 30 min)

- Compelling Instrument Accommodations Requirements/Issues
- Critical Spacecraft Capabilities or Resource Requirements, for example:
 - Pointing/Stability
 - Reference Time
 - Calibration Maneuvers
 - etc.
- Status of Compelling Accommodations Requirements Definition or Associated Trade Studies

Science Data Processing and Ground System Requirements – SU (J. Aloise – 20 min)

Requirements Development Timeline (10 min)

ISSUES/CONCERNS (20 min)

HMI SCR Preparedness Session
Lockheed Building 252, Upstairs Conference Room
Thursday 13 March 2003; 1:00 pm

HMI Concept and Flight Heritage – SU (R. Bush – 15 min)

- Overall Instrument Concept
- Operations Concept
- Flight Heritage

Overview of Changes from Original Proposal – SU (R. Bush - 15 min)

- Team Changes
- Management Approach Changes
- Technical/Design Approach Changes
- Quality Assurance Approach Changes
- Cost/Schedule Changes

Overview of Identified and Potential Risks & Risk Offset Plans– SU (R. Bush - 20 min)

- Science Investigation and Science Processing
- Instrument Development Risks
- Programmatic Risks

Compatibility of Instrument Design and Operational Concepts with SDO Mission and Spacecraft Concepts – LMSAL (B. Carpenter - 15 min)

- Assessment of Compatibility
- Existing Issues/Problems
- Potential Issues/Problems/Risks

Technical Resources – LMSAL (B. Carpenter - 15 min)

- Instrument Resources (mass, power, etc.)
- Spacecraft Resource Drivers (pointing, data completeness, etc.)
- Trade Studies
- New Technologies and Technology Development Verification

Overview of Instrument Assembly and I & T Approach – LMSAL (L. Springer - 15 min)

- Qualification Approach
- Instrument Assembly and I&T at Home Facility
- Instrument I&T at Observatory Level

Overview of Instrument Test Approach - LMSAL (L. Springer - 45 min)

- Instrument Level
 - Functional Test Approach
 - Environment Test Approach
 - Instrument Calibration Approach
 - Spacecraft Simulator Testing
 - Approach to Data Analysis and Science Processing Checks
- Observatory Level

- Functional Test
- Environmental Test
- Calibration Checks
- Required Targeting
- Special Tests (Image Stabilization, Pointing/Jitter, GT Performance, etc.)
- End to End Ground System Test

Programmatics

- Updated Budget Estimate and Associated Bases
- Master Schedule
- Risk Management/Descope Options