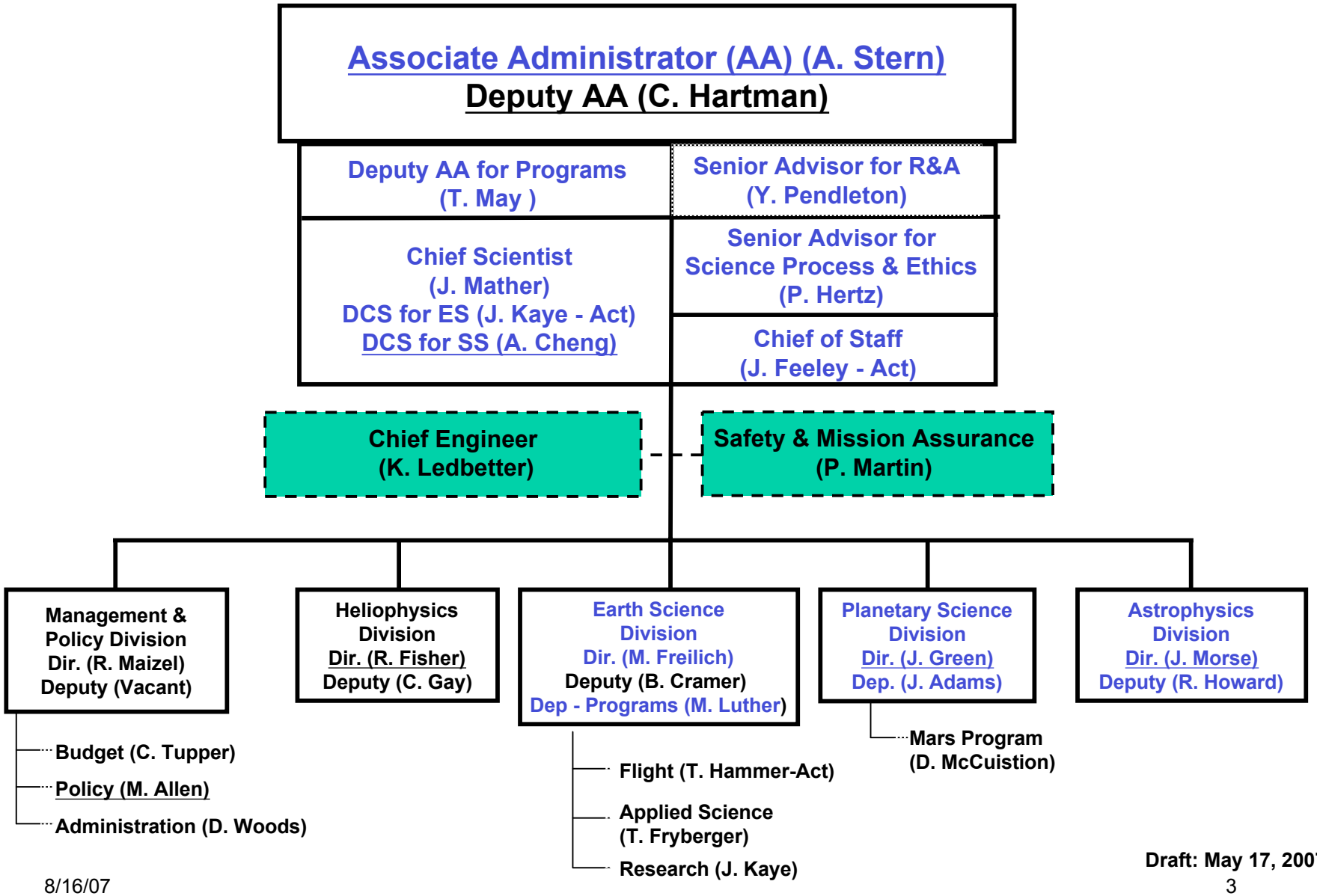
Science Mission Directorate Headquarters Update

Sounding Rocket Working Group
21 June 2007

FY08 SMD Budget Request Highlights (RJF)

- Funding increases at 1% per year from FY2008 through FY2011, and then 2.4% thereafter.
- The budget balances investments based on National Academy of Sciences priorities and programmatic needs.
- Global Precipitation Measurement (GPM) new start for 2013/2014 launches.
- SOFIA reinstated with initial operations planned to begin in 2010.
- Creates a new Lunar Science line, providing $351M in FY08-12 for data archiving, research, and mission of opportunity instruments.
- *Sounding Rocket Program in FY08 budget request is in 'going-out-of-business' mode: this situation was briefed to CSSP and new AA.*

SMD Organization (RJF)



Stern via RJF

- To Get More Science Done With Our Budget.
- To Ensure “The Vision” Succeeds.
- To Promote NASA Leadership Across All of SMD’s Science Disciplines.
- To Create a Better Workplace.

- **Stern via** RJF

- <u>We Intend to Increase Flight Rates:</u>
  - Via MoOs
  - Via Innovative Collaborations
  - Via New Initiatives

Research Opportunities Update

- No changes anticipated to ROSES 2007.

- Draft SMEX AO released June 8
- NASA is instituting minimum experience requirements for the proposed PI:
- http://nspires.nasaprs.com/external/viewrepositorydocument/95314/Draft%20SMEX%20AO%20Final%20v2.pdf
- Comments due June 27, Email smexao@nasa.gov

Draft SMEX AO: PI Requirements

- Overruns and delays adversely affect the frequency of future missions that NASA can mount and additionally can jeopardize the viability of the PI-led mission model. Therefore, mission PIs must demonstrate minimum experience qualifications that are designed to significantly mitigate these risks to the benefit of NASA and the science community.
- **The minimum requisite experience that shall be demonstrated for the mission PI is showing that the person proposed for this position has previously carried out the duties of a key position for at least two years in a space project that has launched or is under development for launch**. There are three parts to the minimum space flight experience standards for a mission PI: the mission PI must have (a) senior project experience on a (b) project that went into (c) space or near-space.
- (a) A mission PI must have served for at least two years previously as the PI, the Deputy PI, the Project Scientist (PS), the Deputy PS, PM, or Deputy PM on a qualifying space project. It is acceptable to have carried out the duties of one of the named positions (PI, Deputy PI, PS, Deputy PS, PM, Deputy PM) under a different title as long as the position entailed the same roles and responsibilities (see Appendix H).
- (b) A qualifying space project can be a full mission, an instrument, or an experiment (e.g., shuttle attached payloads, suborbital projects, and portions of missions/instruments).
- (c) **The qualifying project must have been a "space" project. A space project is one that goes into the space or near-space environment. Space projects include suborbital projects (sounding rockets, scientific balloons), orbital projects, and deep space projects.** For the purpose of this AO, a suborbital experiment that reached greater than 100K feet can be considered to have gone into "space". The space project must have launched or be under development for launch. Experience with aircraft and ground based project development is not sufficient to provide space flight experience for a prospective SMEX PI.
- See Section I.7 of Appendix B on how to demonstrate the PI meets the minimum space flight experience requirements.
- Proposed investigations that are led by PIs lacking in demonstrated, relevant, and appropriate experience sufficient to meet these requirements will be declared noncompliant and will not be reviewed or selected. For proposals in which the proposed mission PI has the required space flight experience, the experience of the proposed PI will be a factor in the evaluation of the proposal.
- Other senior mission science team personnel, such as mission Deputy PI, PS, Mission Chief Scientist, Science Team Lead, and instrument PIs, that may be involved in proposed PI-led SMEX missions need not meet the space flight experience standards described above for the mission PI, though their experience level will remain a factor in proposal evaluation.

Sounding Rocket Program Updates

- **Official FY08 budget carries the 'going-out-of-business' profile for Sounding Rockets. AA has committed to re-invigoration of the Sounding Rocket Program in FY09 and beyond (4 additional selections below); FY08 will be in a 'survival mode' to ensure no lost capability.**
- **FY08 manifest is baselined for 12 missions: 11 scheduled, potential for 5 more will require prioritization until other changes occur; Reinvigorated program would baseline 24 missions/year starting FY10.**
- **This is not new money: SRPO & payload gains come at other programs' expense.**
- **Recent selections**
  - **University of Wisconsin, Madison/Kenneth Nordsieck**
    - "Exploring New Astrophysical Diagnostics with the Far-Ultraviolet SpectroPolarimeter." The payload will make astronomical polarization measurements in the far ultraviolet and explore new diagnostics of the geometry and magnetic fields in stellar envelopes and interstellar medium.
  - **Dartmouth College, Hanover, N.H./Kristina Lynch. Partnering universities: University of Alaska, Fairbanks; University of New Hampshire, Durham; Cornell University, Ithaca, N.Y.**
    - "The Changing Aurora: in Situ and Camera Analysis of Dynamic Electron Precipitation Structures." The payload will perform multi camera investigations of substorm auroras and their variations.
  - **University of Colorado, Boulder/James Green**
    - "Imaging and Spectroscopy in the Far Ultraviolet." The payload will perform investigations of the ratio of molecular hydrogen to carbon monoxide found in gas clouds of other galaxies to accurately determine the masses of those galaxies.
  - **University of Southern California, Los Angeles/Darrell Judge (PI)**
    - "A New Advanced Extreme Ultraviolet Optics Free Spectrometer." The payload will test a new photoelectron focusing system that may be used for future solar observations for calibration for space research.

International/Export Issues

- **Stricter implementation of export and ITAR regulations since 2001**:
  - Rocket motors and guidance systems fall under MTCR rules.
  - NASA MOU's can simplify procedures, but waivers, exemptions, licenses and Dept of State approvals still needed for many activities.
- **Impact on future campaigns in Norway or other non-US ranges:**
  - NSROC contractor, concerned over recent fines to other companies (ITT $100M, Raytheon $25M..), inquired into authorized activities.
  - Export lawyers determined need for a NSROC to obtain a Technical Assistance Agreement, and NASA to obtain export licenses for motors.
    - License granted for Terrier-Improved Orion; more work to be done for Black Brant license due to higher performance.
    - Civil service team setting up launcher in Norway; Technical Assistance Agreement in work to permit NSROC team to handle actual mission operations during August.

PRIORITIZATION OF MANIFEST - PROCESS

Participants: Headquarters Sounding Rocket Working Group
Program Scientist
Program Executive
Discipline Scientists
Sounding Rocket Program Office Personnel

Observer: Project Scientist (Goddard)

Issue: Insufficient SRPO resources to support all of the missions manifested for FY08 launches

Purpose: Prioritize missions seeking FY08 launches