

APPENDIX A

CHARGE MEMORANDUM

memorandum

DATE: JUN 14 2002

REPLY TO
ATTN OF: SC-22

SUBJECT: Request to Conduct a Research and Development Review of the SNAP Experiment

TO: Mr. Daniel Lehman, Director, Construction Management Support Division, SC-81

The Department of Energy (DOE) Division of High Energy Physics (DHEP) requests that a Review of the R&D for the Supernova/Acceleration Probe (SNAP) experiment be conducted July 9-11, 2002 at Lawrence Berkeley National Laboratory. SNAP is a proposed, space-based experiment designed to discover and precisely measure thousands of Type Ia supernovae (for more information, see <http://snap.lbl.gov>). From the data collected, it will be possible to precisely measure the equation of state of the universe, measure the history of its accelerations and decelerations and to study both the dark energy and dark matter in the universe. The main feature of the apparatus is a 2-meter wide-field telescope with a half-billion-pixel camera launched into earth orbit.

The SNAP R&D program was initiated under guidance from the Scientific Assessment Group for Experiments in Non-Accelerator Physics (SAGENAP) panel. The High Energy Physics Advisory Panel's 2001 subpanel, chaired by Professors J. Bagger and B. Barish, endorsed funding of the R&D phase of the program and preparation for conceptual design activities. The National Academies Committee on the Physics of the Universe, chaired by Professor Michael Turner, has recently called for a "wide-field telescope in space to determine the expansion history of the universe and fully probe the nature of the dark energy". The NASA/Structure and Evolution of the Universe roadmap committee is now on record endorsing similar science goals (though they did not call out a specific mission design). The SNAP R&D program and other activities related to developing the foundation for a possible fabrication project have reached the stage where an extensive review of the progress and R&D plan is necessary.

The subject of this Review is the SNAP R&D in its current pre-conceptual design phase and its preparations to start the conceptual design phase in the future. The review Committee is asked to carry out an integrated examination of each subsystem, the technical progress overall, and the cost, schedule and management planning of the R&D program. In addition, the Committee is asked to comment on the effectiveness of SNAP in moving the project to the conceptual design phase in the future.

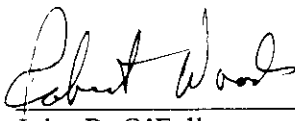
In performance of a general assessment of progress, current status, and the identification of potential issues, the committee should address the following specific items:

1. Does the proposed project meet the scientific objectives described by the Turner panel report?
2. Can the suite of instruments proposed carry out the scientific program proposed?
3. For this instrument concept, does the R&D plan address the appropriate technical issues?
4. Is the cost estimate consistent with the planned R&D program?
5. Have the major risks and uncertainties been adequately identified for the current stage of the proposed project? Is the contingency adequate for the risk?
6. Is the proposed schedule reasonable and appropriate in view of the necessary R&D tasks and projected funding profiles?
7. Is the management structure adequate and appropriate for guiding the proposed project through to a future conceptual design phase?

Kathleen Turner is the program manager for SNAP in this office and will serve as the DHEP contact person for the review.

We appreciate your assistance in this matter. As you know, these reviews play an important role in our program. I look forward to receiving your Committee's report.

You are asked to submit a formal report to DHEP by September 9, 2002.


John R. O'Fallon
Director
Division of High Energy Physics

cc:

K. Turner, SC-221

M. Procaro, SC-221

P. Rosen, SC-20

APPENDIX B

REVIEW PARTICIPANTS

**Department of Energy Review
of the
Supernove/Acceleration Probe (SNAP) Experiment
July 9-11, 2002**

Daniel R. Lehman, DOE, Chairperson

SC1	SC2	SC3	SC4	SC5
Science Requirements (WBS 1.2 and 2.5)	Space Systems (WBS 1.3, 2.1, 2.3.5, and 4.0)	Telescope (WBS 2.2)	Instrument (WBS 2.3)	Ground Segment/Computing (WBS 3.1, 3.2, 5.0)
* Charles Baltay, Yale Andy Albrecht, UC Davis Kim Griest, UCSD Peter Stockman, STScI	* Scott Lambros, GSFC/NASA Andy Gerber, JPL, NASA	* Eri Cohen, JPL/NASA Scott Smith, MSFC/NASA	* James Beletic, Keck Observatory Gunther Haller, SLAC Bruce Woodgate, GSFC/NASA	* Joel Butler, Fermilab Robert Lupton, Princeton

SC6	SC7
Cost/Schedule/Funding (WBS 1.1)	Project Management (WBS 1.1)
* Bill Freeman, Fermilab Steve Tkaczyk, DOE/SC	Observers Aesook Byon-Wagner, DOE/SC Dave Goodwin, DOE/SC John O'Fallon, DOE/SC Kathy Turner, DOE/SC Joe Krupa, DOE/LBNL Jay Frogel, NASA HQ

LEGEND

SC Subcommittee
* Chairperson

Count: 18 (excluding observers)

APPENDIX C

REVIEW AGENDA

**Department of Energy Review
of the
Supernova/Acceleration Probe (SNAP) Experiment**

AGENDA

Tuesday, July 9, 2002—50A-5132, Director's Conference Room

8:00 am	DOE Full Committee Executive Session	Daniel Lehman
9:00 am	Welcome	Pier Oddone
9:05 am	Science Overview	Saul Perlmutter
9:50 am	Mission Overview	Michael Levi
10:35 am	Break	
10:50 am	Weak Lensing Science R&D	Richard Ellis
11:15 am	R&D Plan Management	Peter Harvey
11:35 am	Instrumentation	Chris Bebek
12:30 pm	Lunch	
1:30 pm	IR Detector R&D	Greg Tarle
2:00 pm	Electronics.....	Natalie Roe
2:30 pm	Spectrograph	Eric Prieto
3:00 pm	Break	
3:15 pm	Telescope	Michael Lampton
3:50 pm	Systems Engineering.....	David Pankow
4:30 pm	DOE Subcommittee Executive Sessions	
5:00 pm	DOE Full Committee Executive Session	
6:30 pm	Adjourn	

Wednesday, July 10, 2002

8:30 am	Ground Systems/Computing.....	William Carithers
9:15 am	Simulation	Gary Bernstein
10:00 am	Break	
10:15 am	Subcommittee Working Sessions (SC1/2/4, other subcommittees will join SC1/2/4)	
12:00 pm	Lunch	
12:45 pm	Subcommittee Working Sessions (all subcommittees will meet individually)	
3:30 pm	DOE Subcommittee Executive Sessions	
4:00 pm	DOE Full Committee Executive Session	
7:30 pm	Adjourn	

Thursday, July 11, 2002

8:30 am	Subcommittee Working Sessions	
11:30 pm	Lunch	
12:00 am	DOE Full Committee Closeout Dry Run	
3:00 pm	Closeout Presentation to SNAP Management	
4:00 pm	Adjourn	

APPENDIX D

COST TABLE
and
SCHEDULE CHART

