NSF Division of Astronomical Sciences

AAAC

February 1-2, 2010

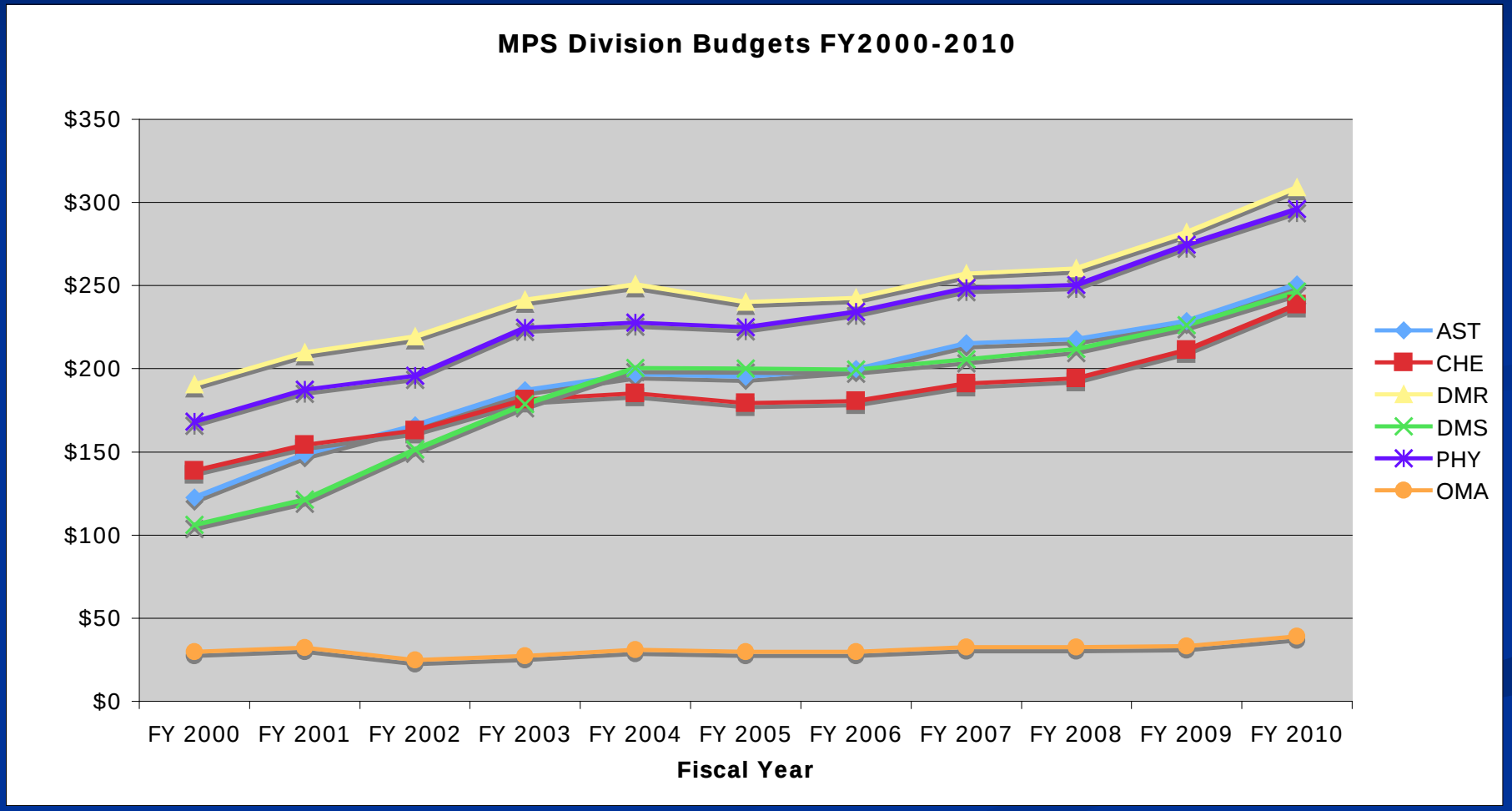
Craig Foltz

Interim Division Director, AST

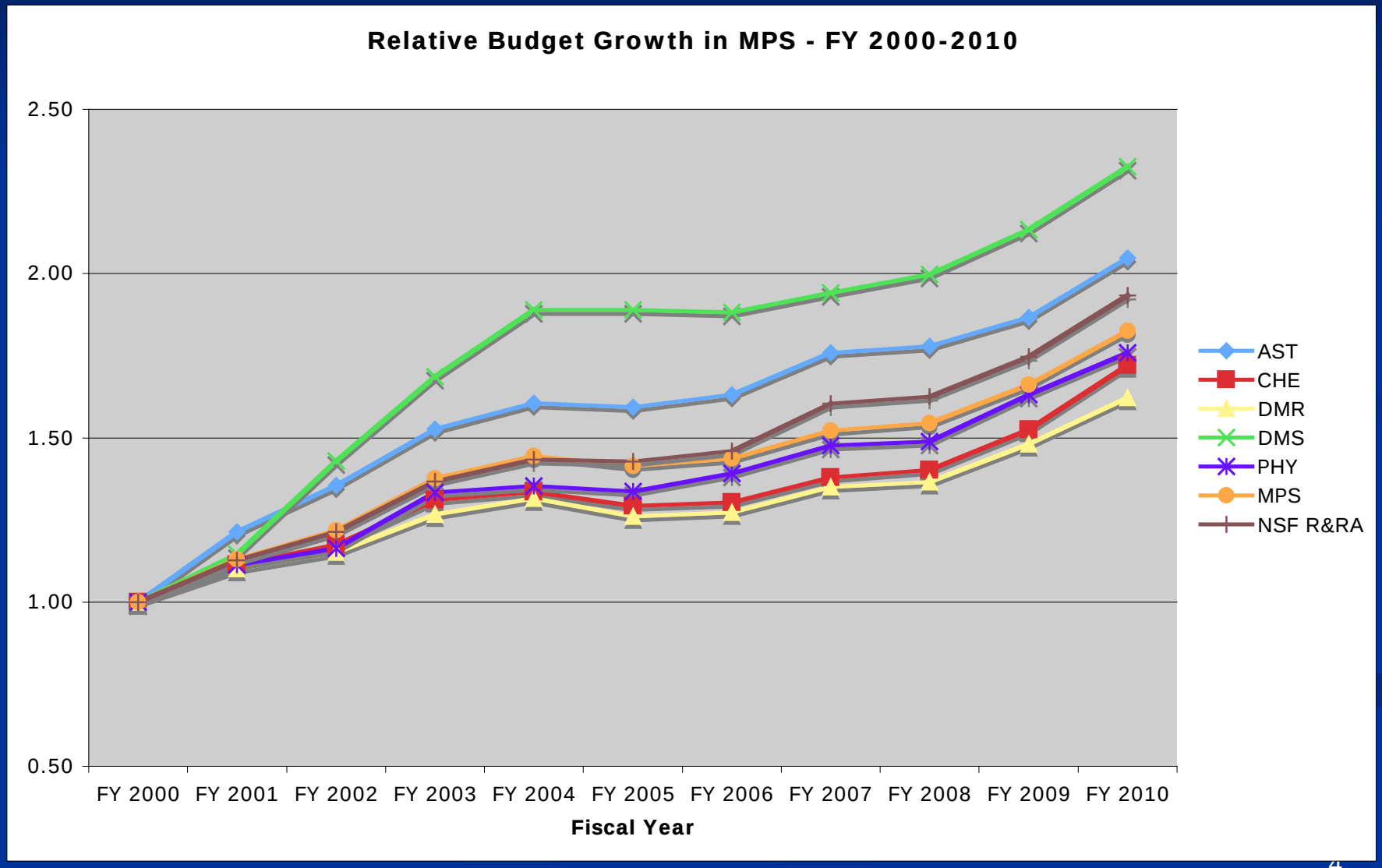
Summary

- AST Budget Overview – 2009 -2010
- Changes in AST
- NAIC
- ALMA
- ATST
- Gemini

MPS Budget trends

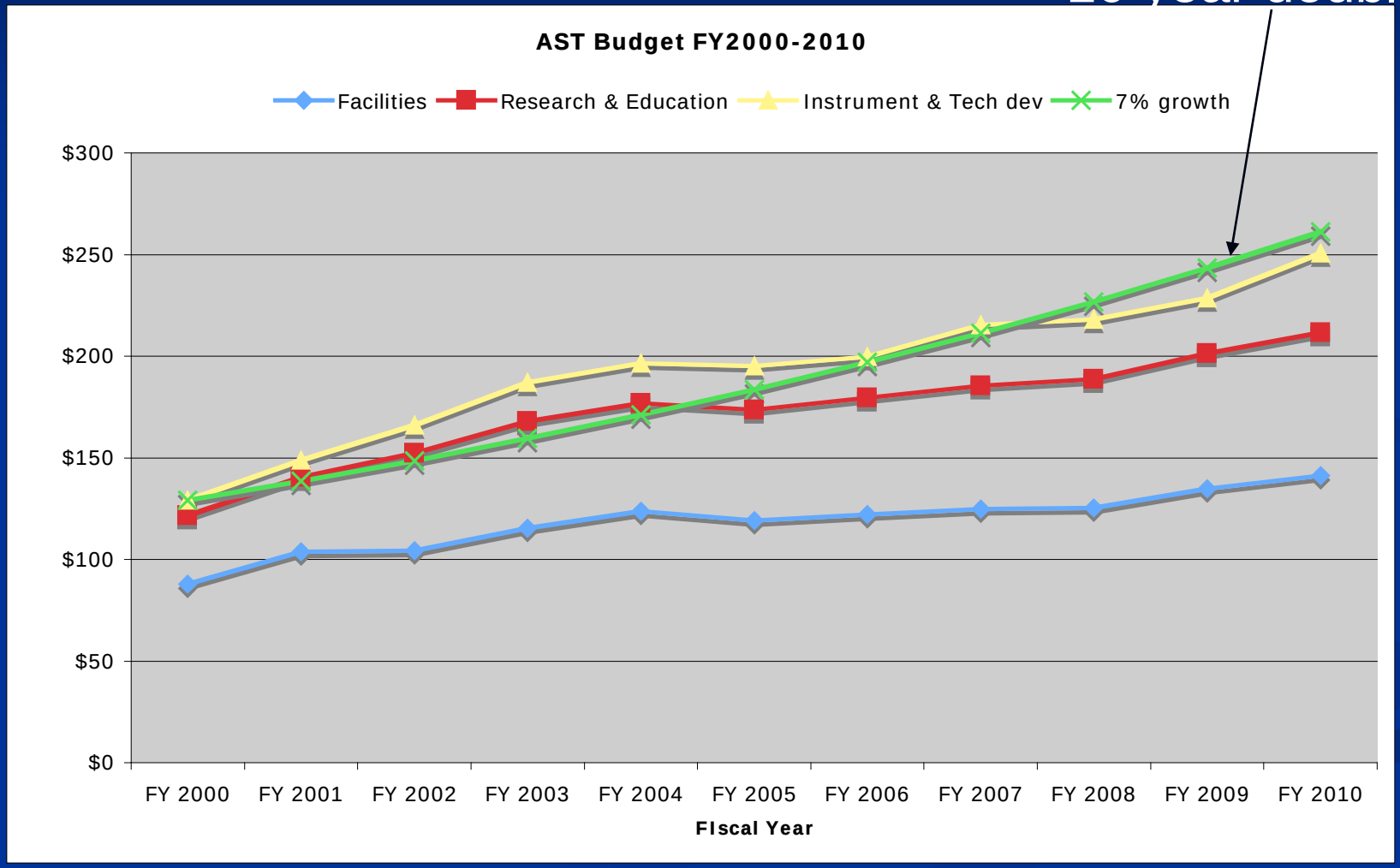


MPS budget trends (cont.)

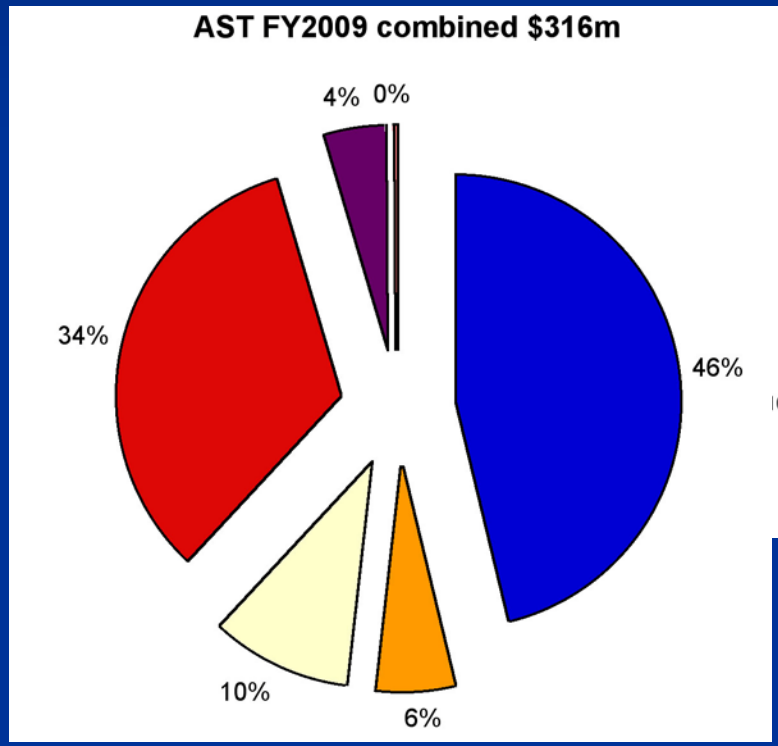


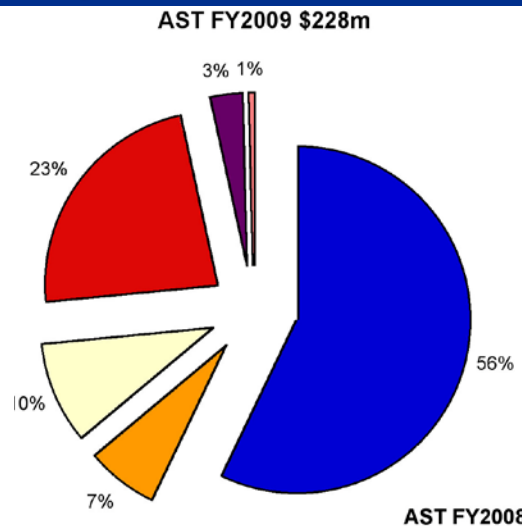
AST Budget trends

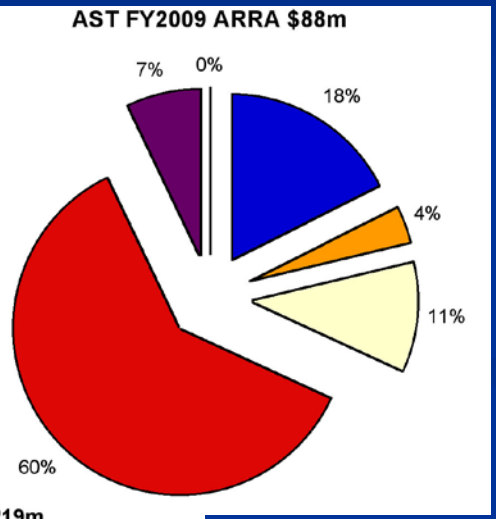
10 year doubling

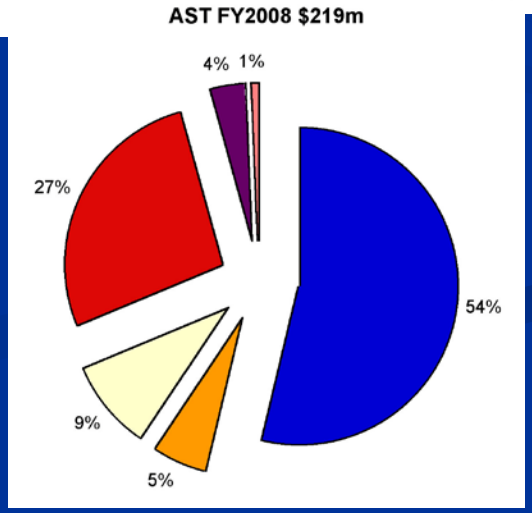


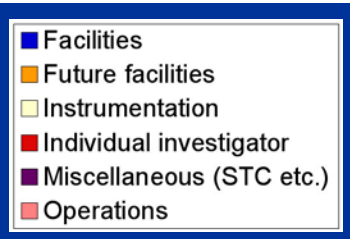
FY2009 spending
(including American Reinvestment and Recovery Act, ARRA)











FY 2010 Budget Request

AST Total: $244.8 M (increase of 7% over FY 2009)

- Facilities: $141 M (56%)
  - Gemini - $19.1 M
  - NAIC - $8.4 M
  - NOAO - $27.5 M
  - NSO - $9.1 M
  - NRAO - $67.1 M
  - UROs - $10 M
- Research and Education Grants: $110 M total (44%)
  - Roughly $45M for AAG; $37 M for instrumentation;
  - $25 M for special programs (AAPF, GRF, CAREER, REU, Cyberinfrastructure, NSF-wide, etc)

Budget Projections?

Administration, congressional support for NSF budget doubling over 10 years.

How will AST fare in this growth?

Administration priorities not well aligned with AST:

- "Green" energy
- Climate change
- Short term economic recovery

What is the impact of this? – Wait for today's roll-out and tomorrow's summary

Changes in AST

- The Division of Astronomical Sciences has been without a full-time Division Director for 21.5 months. It is highly likely that a new DD will be in place on March 1, 2010. Craig Foltz will revert to a Program Officer.
- We have been without a Deputy Division Director for 7 months. The search continues.
- Dr. Gary Schmidt will join AST *today* as a permanent Program Officer. Welcome, Gary!
- A search for a Program Officer to fill the position vacated by Dr. Linda Sparke has concluded. We are optimistic that a new PO will be in place soon.
- With the addition of a new DDD, the Division will be back to our full FTE allotment.

- However, the rigors of the ARRA funding along with the workload imposed by new projects and solicitations (e.g. ARI), funding of ATST construction, additional requirements, etc. are significant. Additional staff are clearly needed.

National Astronomy and Ionosphere Center (NAIC)

- Recommendation to ramp budget down to $8M by 2010, and to a level not to exceed half of the expected operational cost in years following. Seek non-AST support to maintain operations or closure. NSF Atmospheric and Geospace Sciences (AGS) will be increasing contribution to operations

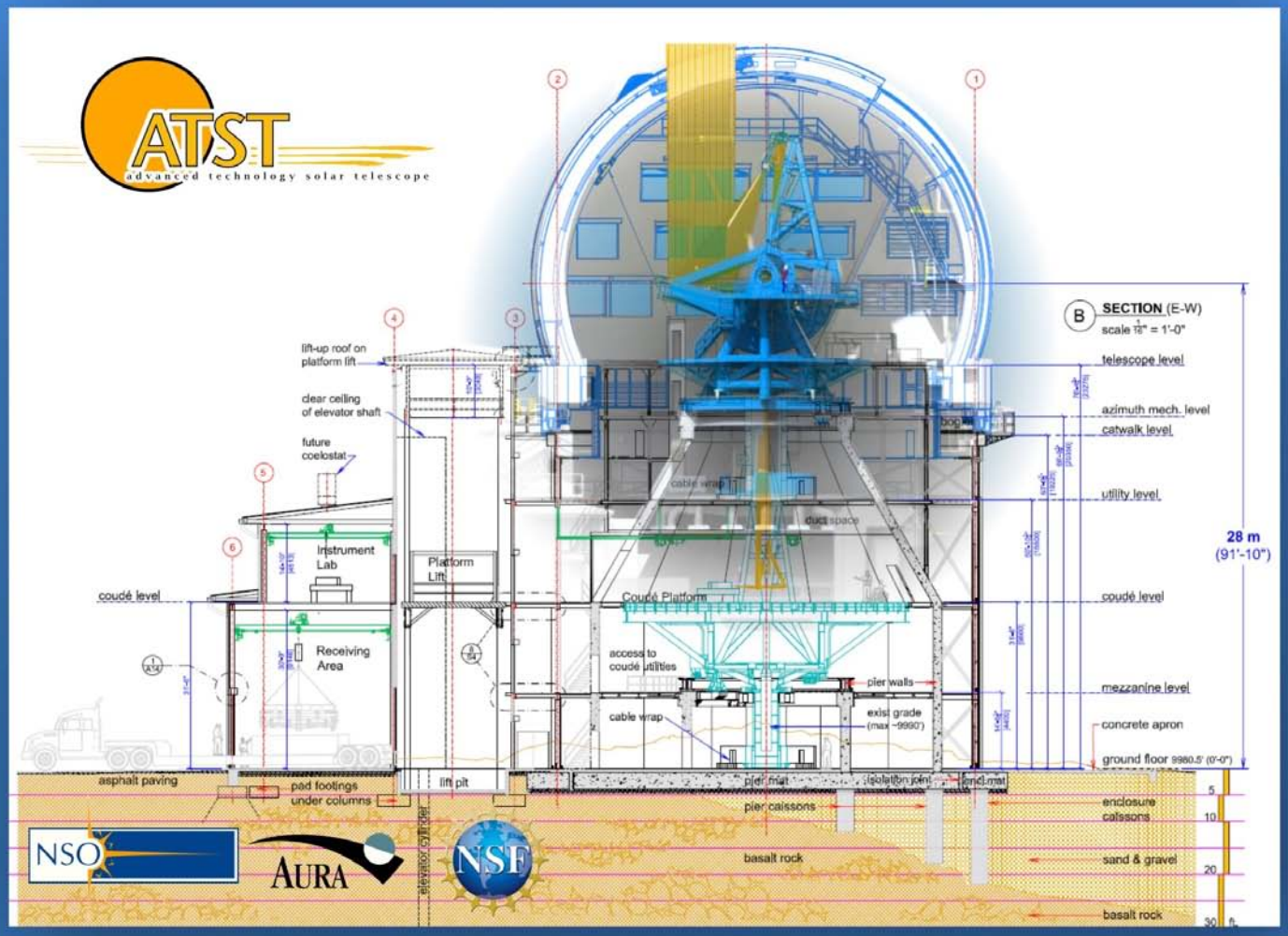
- NSF (AST, AGS) will compete the next cooperative agreement for the management and operation of NAIC.
  - Program solicitation entering the NSF clearance process; full proposals due 5-6 months following publication.
  - Expected to lead to the award of a single, five-year cooperative agreement for the management and operation of NAIC for 2011-2015.

- Impact of recent NRC NEO study uncertain.

ALMA – First Fringes and Phase Closure!

- Nov 2009: 3-antenna interferometry and first phase closure at the high site.
- Jan 2010: Start of Commissioning and Science Verification phase.
- Challenge: Departure of Adrian Russell as NA ALMA Project Manager.

ATST


ATST
advanced technology solar telescope
B SECTION (E-W)
scale 1/16" = 1'-0"
telescope level
azimuth mech. level
catwalk level
utility level
coudé level
mezzanine level
concrete apron
ground floor 9980.5' (0'-0")
28 m
(91'-10")
lift-up roof on platform lift
clear ceiling of elevator shaft
future coelostat
Instrument Lab
Platform Lift
Coudé Platform
Receiving Area
access to coudé utilities
pier walls
cable wrap
exist. grade
asphalt paving
pad footings under columns
lift pit
pier mat
isolation joint
encl. mat
pier caissons
enclosure caissons
basalt rock
sand & gravel
elevator cylinder
NSO
AURA
NSF

ATST Status

iew and Permitting process for site:

d to EPA on July 24, 2009; published on July 31.

Bement on Decemb
compliance requiren

- First funding action
15, 2010. MREFC f
follow by the end of February.

The Gemini Observatory

The Gemini Observatory consists of twin 8-meter optical/infrared telescopes located on two of the world's best sites for observing the universe. Together these telescopes can access the entire sky.

Gemini South – Cerro Pachon, Chile

"Two telescopes, one observatory."

Gemini North – Mauna Kea, HI

Gemini Management

- Gemini was built and is funded by a partnership of 7 countries including the United States, United Kingdom, Canada, Chile, Australia, Brazil and Argentina. The U.S. is the majority partner (50.4%).
- Governance of the Observatory is by the Gemini Board, composed of scientists and funding agency representatives from the partner countries.
- The NSF serves as the Executive Agency. All funding flows from the international partners through the NSF. The Association of Universities for Research in Astronomy (AURA) is [currently] the managing entity for Gemini management and operations (M&O).
- Probable changes in the partnership driven in part by global funding uncertainties introduce complexities in structuring the future management of the observatory.

Gemini Management Challenges

- At the November 2009 Gemini Board meeting, all partners except the UK declared their intention to (1) stay in the Gemini partnership post-2012, and (2) extend the current International Agreement through December 2015.
- The position of the UK was that it had not completed its process of review, but that it was almost certain not to continue in the Partnership beyond 31 December 2012.
- The UK Science & Technology Facilities Council officially communicated their decision to withdraw on 22 December 2009.
- The departure of the UK will result in a ~25% cut in the annual Gemini M&O and instrumentation budget. Other partners cannot yet commit to funding levels post-2012.

Gemini Management Challenges (cont.)

- In response to the UK announcement, the Gemini Board established a second assessment point of 19 March 2010, at which time the partners' positions and funding outlooks will be restated.

- The Board instructed the observatory to prepare plans for a 7-10% cut per annum in 2011-2013 (inclusive). Plans must include consideration of operational model, staffing make-up, etc.

- The Board will hold a retreat on 17-19 March 2010 to consider the observatory's plans and possible changes in the management structure, operations model, etc. (If no new funds are found, the U.S. share would increase to >63%.)

Considerations Under Discussion

- Re-balancing the partnership. Reduced or increased partner share could have budgetary implications.
- Addition of new partners. Is this desired?
- Management structure – Is the current system optimal and cost-effective?
- Reduced operations/development scope, e.g., changes in the 100% queue observing model.
- Relationship to other national observatories, including potential consolidation of observatory services and management.