Decadal 2020 – Flagship Studies

Thoughts; Context; Questions; Possible approaches
That will hopefully result in a

A meaningful report contents
Decadal Studies Pause & Learn #2
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The final study deliverable
(Management Plan)

• **Science case for the mission**

• **Mission and observatory performance requirements that deliver these science capabilities**

• **Design reference mission, including straw-man payload trade studies conducted to arrive at the final mission concept**

• **Technology assessment:**
  – Current status, at the time of submittal of the final report
  – Roadmap for maturation to both TRL-5 by the start of Phase-A and TRL-6 by the mission PDR
  – Phased resources needed to achieve the required technology maturity levels by the start of Phase A and by mission PDR

• **Cost assessment, major technical, and risk burn-down plans as a function of science capability.**

• **Top-level schedule for major phases of development including a notional launch date (assuming entering phase-A as a post-WFIRST budget wedge opens) and top schedule risks.**
Final Report Objectives

• Teams have developed a compelling science case in a DRM
• Measurement requirements to meet science goal identified
• Driving payload & mission requirements are flowing down from the science case
• Mission architecture defined at a reasonable level to
  – Assess feasibility
  – Identify technology shortfalls
  – Produce a cost estimate by the CATE process
• Identified Science capability vs. changes in key assumptions
  – LV
  – Technology availability
  – Etc
• Interim Report: Judge the progress and share info with other teams
• Final Report: Compete to answer all potential questions the decadal committee may ask
Metrics Decadal 2020 May Use

- To narrow down the content list, let’s think about what we believe the Decadal committee needs in order to prioritize the concepts.
  - If you were the decadal committee member, what questions would you have. For example:

- What’s the science case and how sensitive it is to the following:
  - Budget: At what cost point is the science no longer worth doing for the money required to achieve it.
  - Would the minimum science still rank higher than the other 3.
  - Achieving the technology requirements: Is there a graceful degradation of science if the enabling technologies fall short

- Is the best case science worth the cost of the mission.
- Is the cost estimate most conservative possible. Did the cost estimate account for all cost drivers.
- Any others?