Program Management & Acquisition Focus Area
Findings and Recommendations

NASA Advisory Council (NAC)

October 1 – 2, 2024
Marshall Space Flight Center

https://www.nasa.gov/nac/

Approach

- Team Membership:
  - Charlie Williams, Chair
  - Krista Paquin
  - Elisabeth Pate'-Cornell
- Methodology
  - Examine existing NASA practices/processes
  - Review GAO, IG reports and other study reports
  - Seek industry input on NASA practices
  - Benchmark best practices across industry and DOD
  - Engagements were arranged to ensure anonymity if desired
  - Identify improvements that should be considered by NASA

Approach (cont'd)

- Conducted 23+ interviews: May - October 2022

- Preliminary findings and recommendations briefing to NAC: January 2023

- Meeting with AIA CEO, Eric Fanning and staff: April 2023

- Summary briefing to NAC: May 2024

- Follow-up Engagements

  - Deputy Administrator, Pam Melroy: 30 July 2024 Comments on Findings and Recommendations

  - CPMO, Dave Mitchell: CPMO Update Briefing 5 September 2024; Risk Management Tiger Team Report dated October 2023

  - OPO, Karla Smith Jackson: 22 August 2024

  - Charles Hunt & Criag McArthur, Joint Confidence Levels (JCL) : 4 Sep 2024

  - Reviewed NASA at a Crossroads: Maintaining, Workforce, Infrastructure, and Technology Preeminence in the Coming Decades 2024

Training, Development and Organizing for Success

Findings

❖ NASA has made tremendous progress with elevation of the CAO role to the DA and the establishment of the OPMO in 2022. Recent positive progress includes establishing a PM Community of Practice through creation of the PM Network based on NASA's 70-20-10 learning framework, reinstitution of the annual PM Symposium, and sustained and strengthened PPMB engagement.

❖ NASA funding for workforce training and development has eroded since 2019, and there continues to be a need for a single integrated workforce development strategy across the PM community with adequate funding for formal education needs.

❖ There are inconsistencies in incentives and grade structures for PM's across the agency and often varies by center and program without full regard for the complexities and breadth of impact.

❖ Across the PM&A workforce, there is inadequate understanding of commercial business practice and incentive structures

Training, Development and Organizing for Success

Recommendations

❖ Examine internal agency funding models to restore the agency workforce training funds to levels prior to 2019 that protect this critical investment from external scrutiny and attack.

❖ Initiate an agency wide review of GS/SES allocations for program managers and ensure pay and grade structures reflect the complexity and risk of programs.

❖ Establish a DoD like Industry/Government Exchange Program to broaden understanding of commercial business practice and incentive structures.

Acquisition strategy

Findings:

❖ NASA utilizes a disciplined Acquisition Strategy Council two-step governing process that includes early-stage strategy formulation and formal, documented decisions. However, some program managers have not demonstrated full commitment to the process. The recent creation of required presentation templates and the addition of a requirement for formal acquisition plans for high dollar acquisitions is to be commended as a means to facilitate improved commitment to the process.

❖ Pressure to use FP contracts without considered analysis for first time, low TRL, extensive development programs is unrealistic, high risk and not indicated based on federal acquisition practice and policy. Further, there can be a cultural bias for cost-plus contracts to retain insight and control thus limiting open dialog on innovative contracting practices.

❖ There is an opportunity for more consistent communications with Industry on NASA's acquisitions, strategies, processes and requirements. There is generally a lack of NASA workforce awareness, understanding and corporate knowledge of the legal, financial and competitive implications of NASA decisions on contract types and requirements.

Acquisition strategy

Recommendations

❖ Within the "Change Leadership" Executive Core Competency (ECQ), hold senior leaders accountable for timely and comprehensive commitment to the acquisition strategy process requirements and measurement of outcomes.

❖ Leverage feedback we heard from industry regarding best practices for the use of Fixed Price contracts that are a win for NASA and the space industrial base:

   ▪ Incorporate appropriate selection criteria that include financial viability, technical workforce availability, and past performance.

   ▪ Fund new developments via Cost Plus for the trials and testing phase (through to CDR) then use Fixed Price for development.

   ▪ Consistently reduce the risk of Fixed Price commercial development contracts with dual awards.

❖ Create a NASA/Industry Council chaired by the CAO to share plans and exchange ideas to inform and communicate NASA's acquisition strategies.

Program Performance & risk Management

Findings

❖ Top leadership support from the CAO is driving increased accountability and tools for improved mission performance as demonstrated through the establishment of the OPMO and the Risk Management Tiger Team.

❖ Application of lessons learned and proven program control techniques have shown improvements in large mission performance:

   ❖ Earlier Independent Review Boards to scrub missions before setting the baseline; Joint Confidence Level (JCL) for projects over $1B; Implementation of EVM for in-house projects; Cost caps and definitive launch dates to remove subjectivity; Risk Informed Decision Making (RIDM).

❖ Recurring characteristics of programs that don't perform to the baseline include:

   ❖ Funding instability, phasing and variability.

   ❖ Requirements creep and fluctuation often influenced by external drivers.

   ❖ "Optimism bias": Overly ambitious cost, schedule assumptions and technology readiness dependencies.

   ❖ Insufficient and untimely vertical and horizontal communications with leadership and line management both inside NASA and with industry partners.

   ❖ Excessive civil service oversight, reporting requirements and insufficient coordination on center roles.

Program Performance & risk Management

Recommendations

❖ Formalize a requirement for Quarterly meetings of senior leaders between NASA and industry executives to focus on program performance and risk.

❖ Improve rigor in the early formulation phase including Independent Assessment at the MCR phase, identification of technical, cost, schedule risks and interdependencies to inform acquisition strategies.

❖ Clearly define and document the civil service role in programs/projects:

   ❖ For Commercial Contracts, ensure stability of requirements throughout the design and development process and commit to an upfront understanding and agreement that industry owns the technical baseline.

   ❖ For all programs/projects, PM's obtain center agreement on reporting requirements and a commitment on how much engineering and programmatic oversight is needed based on the structure of the acquisition and center roles and responsibilities.

❖ Communication - Leverage the recommendations and actions taken in response to the Psyche IRB to ensure vertical and horizontal, open, credible and responsive communications for proper insight at the leadership and line management level of programs and projects.

❖ Embrace and implement the recommendations of the Risk Management Tiger team that includes establishment of the Chief Risk Officer (complete) and actions to ensure early identification of risk, communication, risk education and consistent risk management, implementation and tracking.