



What Good is a HQ Program Executive?

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The role of a Program Executive (PE) is much like Janus, the two-faced god of gates, doors, doorways, beginnings and *endings*.

Your project's
Point of Contact
and
Advocate
at HQ



But also your project's
Enforcer
of Gov't and NASA
rules, regulations, and
seemingly endless
requests for data and
information on
unreasonably short
time frames



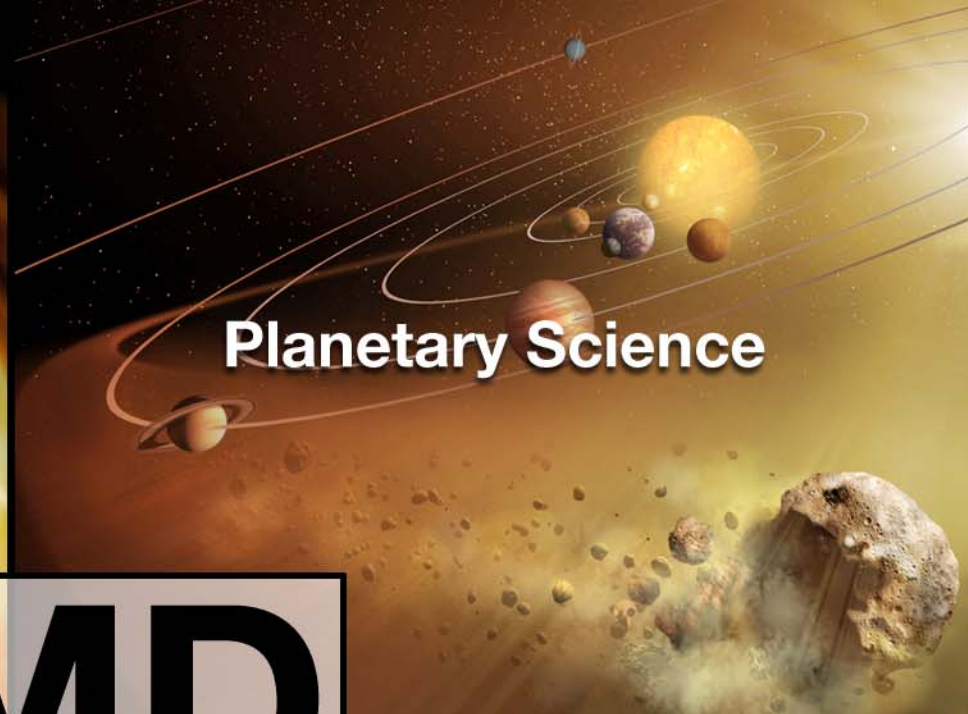
Context of Our Remarks



- We are from Planetary Science Division, Science Mission Directorate (SMD), NASA HQ
- Our remarks are applicable to SMD Programs
 - Specifically science spacecraft development & missions
- May not be applicable to all other Directorates' programs/projects
- Your mileage may vary....



Earth Science

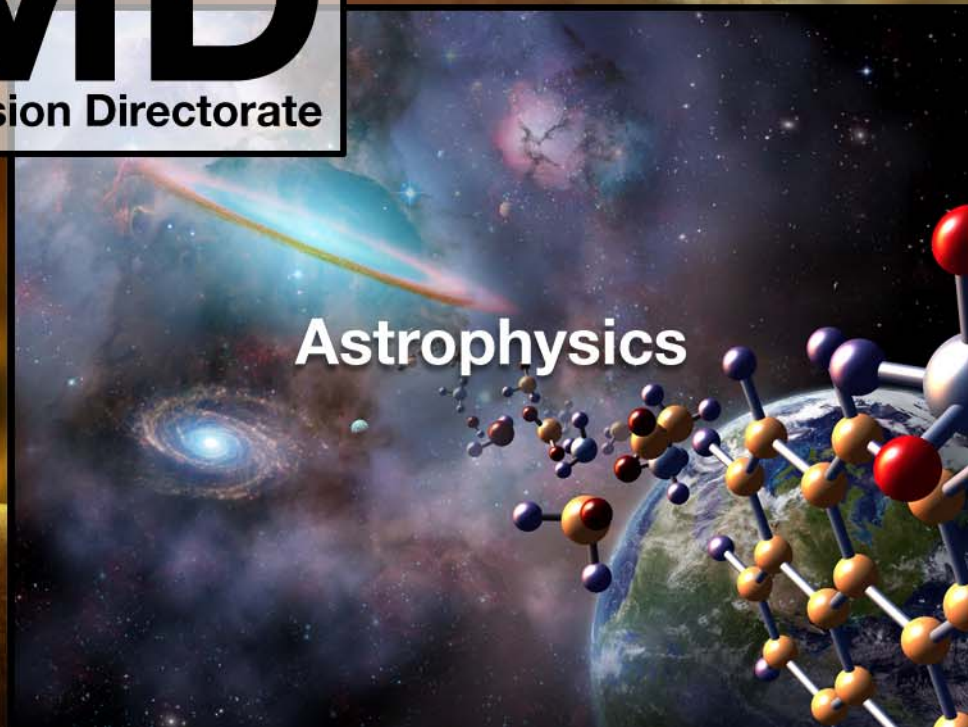


Planetary Science

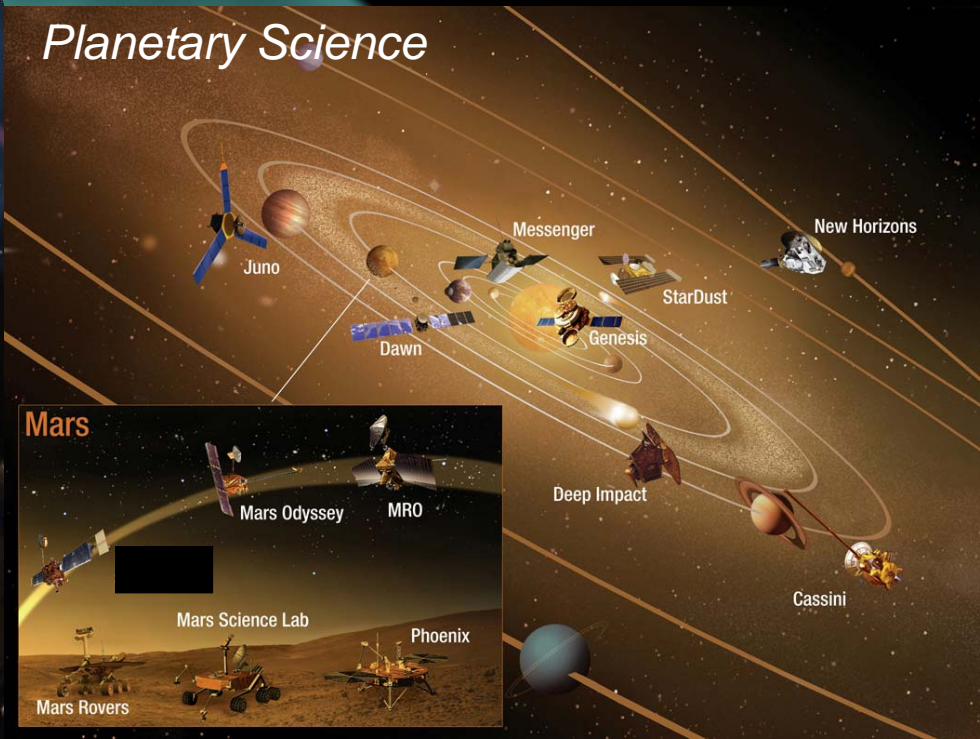
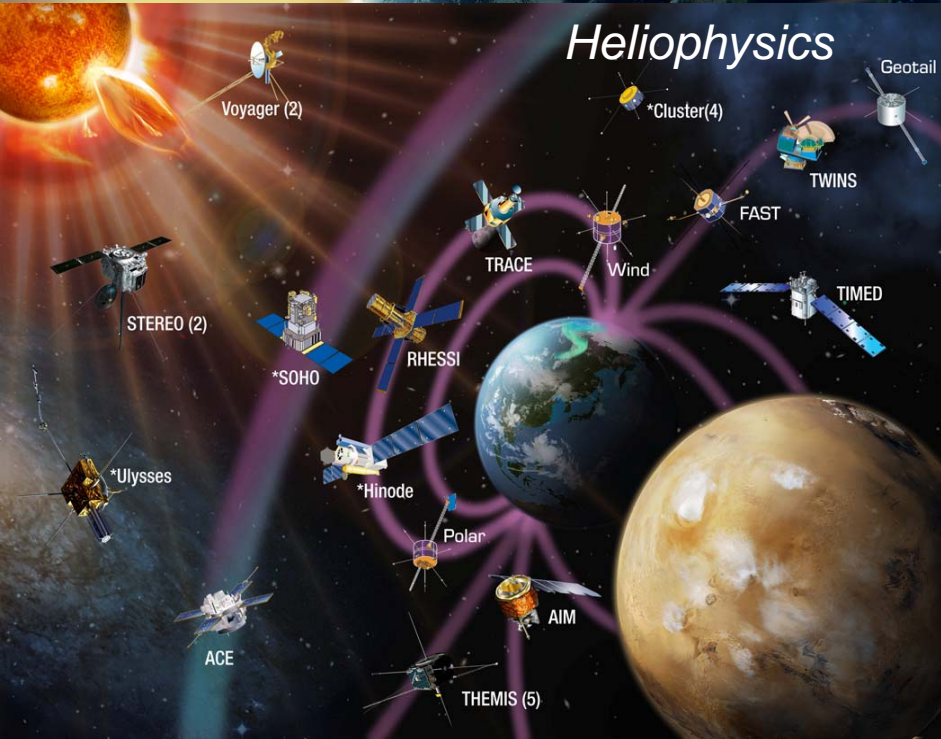
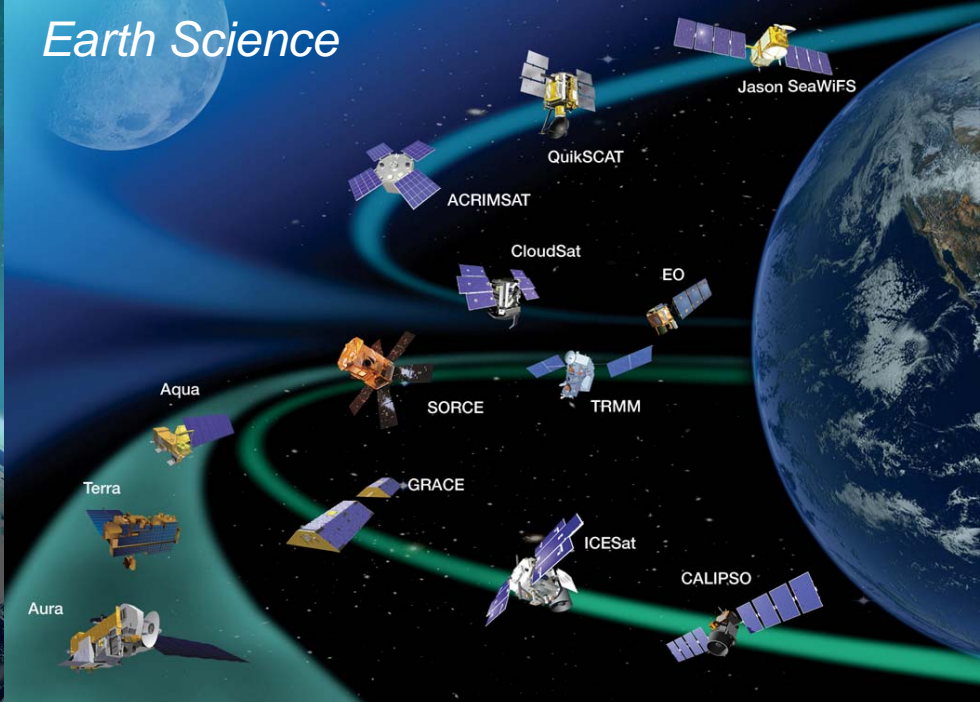
SMD
Science Mission Directorate



Heliophysics



Astrophysics



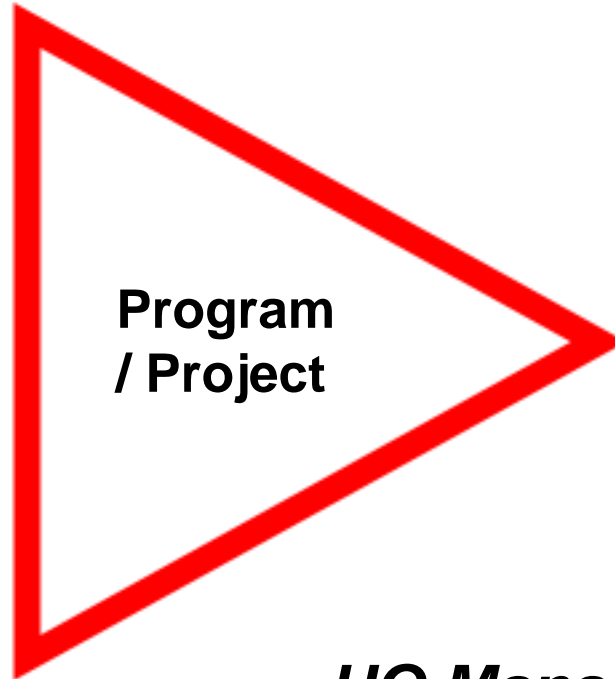


PE is part of a HQ “Triumvirato”



Program Scientist

Program Director



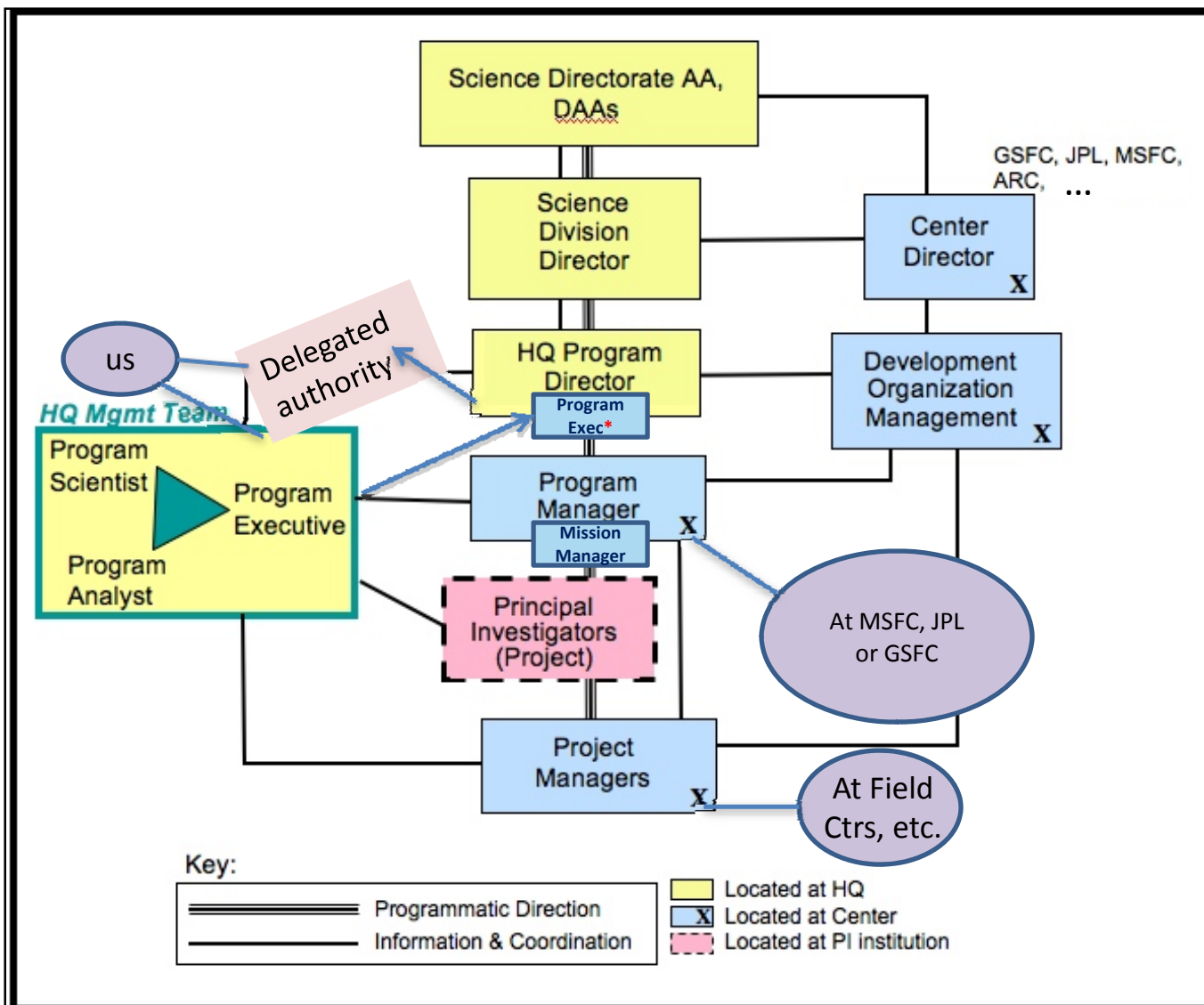
Program Executive

Program Analyst

***HQ Management Team
Aka Program Officers***



SMD Management Accountability

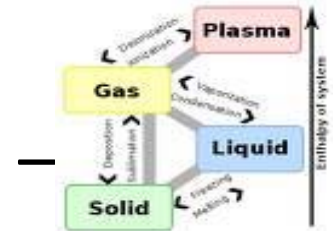


*Division has the authority to delegate to the PE



A HQ PE:

- Ensures project establishes and meets obligations (cost, schedule, and technical)
- Helps you understand what is required for each direction and process (tailors 7120.5D)
- Facilitate transitions between Phases
get your project through each gate



- Open the doors of all of mission support and directorate offices on your behalf
- Create the documentation required at the end of each phase or process (i.e. key decision point KDP)
- Is your spokesperson at HQ



7120.5D

- **3.1 Overview of Roles and Responsibilities**

- 3.1.2.h. The Mission Directorate Associate Administrator (MDAA) may designate a Program Director or Program Executive to support the MDAA and the Program Manager **in defining, integrating, and assessing program/project activities and to provide policy direction and guidance to the program/project.**

For a program/project the designated Program Executive supports and recommends action to the MDAA and is assigned direct responsibility for roles and responsibilities assigned to the MDAA.

Within SMD, specific responsibilities of PE are reiterated in the SMD Handbook (see backup slides)



Pictorial Role of a PE (7120.5)





Pictorial role of PE (SMD Handbook)





PEs are Your Advocate



- We defend your status to PSD management every week and to SMD management every month (and any other times required).
- Promote project science and success highlights to NASA Leadership
- We are expected to know MANY details on anything related to your project. If we don't know, we must find out quickly when asked.
- We help you prioritize activities and determine relevance.
- We push to get your required documentation out of the inbox, signed, and on to the next step in approval.
- We push to keep you off the lists for 'pilot programs' that will add new requirements.
- We defend your budget as unexpected needs arise elsewhere.
- We initiate and manage required documentation

- Formulation Authorization Document (FAD)
- Major Project Annual Report (MPAR)
- Program Commitment Agreement (PCA)
- Program Level Requirements Appendix (PLRA)
- Internal/External Project Commitment Matrix
- Performance Plan, Budget and Execution (PPBE) submits,
- Orbital debris , mishap plans, National Environmental Policy Act NEPA, etc



So you don't need to!



PEs are Your Advocate, con't



- **We represent you to**

- Procurement and Science Support Office for proposals
- Procurement for protests
- Other Mission Directorates in cooperative efforts
- External Affairs with Memo. Of Agreement, Letters of Agreement, International Partnerships
- Legislative Affairs for immediate turn around information and defense
- General Counsel as needs arise (export control, protests, other)
- Program Analysis & Evaluation (PA&E): baseline reports for OMB, GAO reports, BOEs, JCLs, CADREs, official documentation for SMC
 - (Office of Mgmt & Budget, General Accounting Office, Basis of Estimate, Joint Cost & Schedule Confidence Levels, Cost Analysis Data Requirement, Strategic Mgmt Council)*
- Launch Services to get your Launch Vehicle requirements satisfied on time
- Public Affairs when the news is good or bad
- Office of Chief Engineer (OCE) for 7120 waivers
- PA&E for 1000.5 waivers
- Independent Program Analysis Office (IPAO) for Standing Review Board (SRB) membership, Terms of Reference (TOR), reviews
- Office of Safety and Mission Assurance: orbital debris assessment and mishap plans





PE's most important Advocacy



Ensure that formulation phase
leads to
realistic commitments @ Confirmation
(\$, schedule, and Level 1 Science Requirements)
and
Commitments are met throughout project

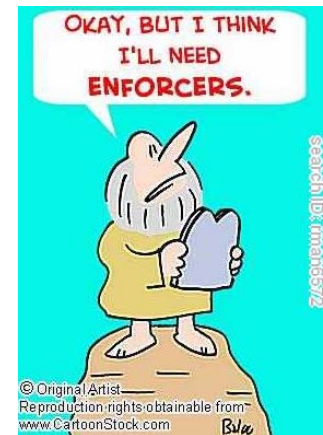
A recipe for success nearly every time



PEs are NASA's Enforcers



- We interpret, translate, and enforce or tailor the following requirements:
 - Engineering Standards (Gold rules, Design Principles, etc)
 - NPR 7120.5D
 - NPD 1000.5
 - SMD Handbook (guidelines)
 - Earned Value Management (EVM) reporting
 - Science Data Access Policies
 - Cost and obligation metrics
 - Planetary protection policy, education and outreach policy, etc
 - Your project's commitments (i.e. cost, schedule and Level 1 requirements).
- We must assess and report
 - Technical performance and risks
 - Project/Program status: technical, schedule, cost and overall
 - Mission success criteria and accomplishment



A PE's Life at HQ




- A lot of rapid swirling and chasing with an indeterminate outcome
- PE acts as the buffer/clutch
- PE needs to be flexible

- Sometimes we are chasing,
- and sometimes we are being chased

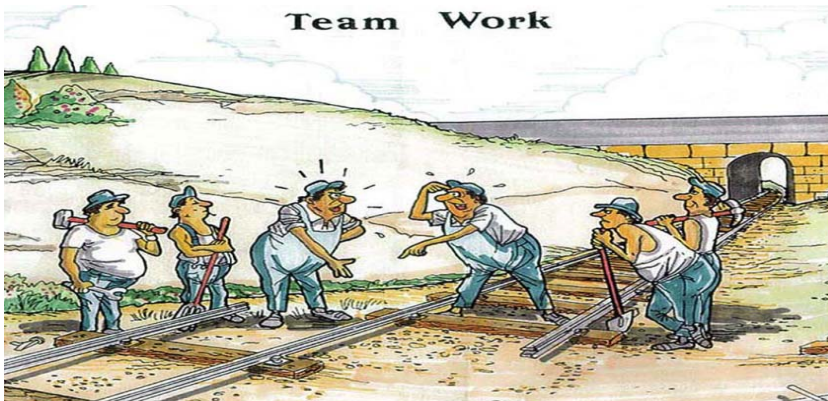


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- Open communication is the key
 - Maintain “open door” policy - both ways 
 - Project to PE and PE to Project
 - Mostly to Mission Manager (MM) and Project Manager (PM), but sometimes other key project staff (Principal Investigator, Resource Analyst, etc)
 - PE mantra: **Manage by “influence”**
 - Using integrated team approach

- How should PEs do this?
 - Build firm foundations
 - Gain and maintain trust & respect
 - Maintain a positive relationship
 - Teamwork is key



- Sometime PEs may need to help to look at the big picture
 - Take you out of the comfort zone
 - Help you see things a different way
 - Prevent you from entering a downward spiral
 - Provide “Lift” with other Agency resources





PE's Main Goals



• Keep your project balanced within these 3 goals:

- Within cost
- On schedule
- “Achieving mission success”



- See us when we are your **Advocate**
 - You'd offer up more information
 - Feel like we are part of your team



- See us when we are the **Enforcer**
 - You may not want to answer our calls
 - May feel like we are not a helpful part of your team





Value Added by PEs

- Implement project request and requirements through the NASA governance model processes
- Push back on impacts by new policies, and procedures
- Provide access to large, external experience base
- Keep the project in positive light with Directorate and SMD by keeping them well informed
 - But prepare the ground in case of bad news
- Navigate NASA bureaucracy
- Acts as a referee between IPA&O and SRB when needed
- Ensure problems always come with solutions
- Keep HQ informed



Two personas, one goal

- Mission Success for your project
 - The entire project team is responsible for mission success
 - We are part of your project team
 - Successful completion of project gate reviews are written into PE's individual performance plan
 - Keep your PE in the loop
 - No Surprises – From below or from above!



We ask that you ..

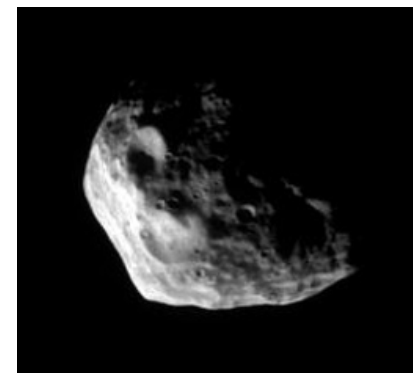
- See us as both **Advocate** and **Enforcer**
- Help us balance the roles as needed
- Help us help you to achieve



mission success



Saturn's moon Janus,
from highly successful
Cassini Project
(PE: Mark Dahl)

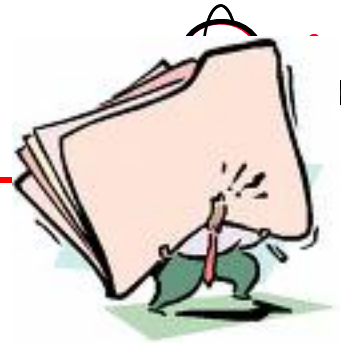




Back-up



Reference Documents



NASA Space Flight Program and Project
Management Requirements, NPR 7120.5D

NASA Systems Engineering Processes and
Requirements, NPR 7123.1A

SMD Management Handbook



SMD Handbook (1 of 6)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)
 - The SMD AA (aka: the MDAA) designates individuals at NASA HQ to sponsor specific programs and projects.
 - The SMD AA delegates responsibilities to the PE through the Division Directors (DDs).
 - The PE serves as the DD's technical arm to keep track of programmatic activities and ensure the project is initiated and executed according to approved processes.
 - The PE acts as the primary interface for the DD with the Program and Project Managers at the Center or other implementing organizations, maintaining a current knowledge of project status.
 - Through this delegation, a PE has the following responsibilities:



SMD Handbook (2 of 6)



5.0 Flight Program Management and Assessment

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 - 5.2.2 Program Executive (PE)

INITIALIZES PROGRAMS AND PROJECTS (PRE-PHASE A)

- Tracks Directorate-initiated studies to define new missions and determine their feasibility and desirability
- Represents program interests on working groups having a charter to define classes of future missions and generate science implementation plans
- Establishes working groups to determine the advanced technologies necessary to enable future science missions.
- Maintains working relationships with NASA Center management, programs, and projects, as required to have a sound informational foundation for recommending programmatic actions.
- Provides liaison with SOMD's launch-vehicle provider organization.
- Develops and maintains key peer-to-peer working relationships with established NASA partners in order to facilitate the negotiation of new working agreements for cooperative programs.
- Works with the Program Scientist (PS) and Langley Research Center (LaRC) Science Support Office (SSO) as required during Announcement of Opportunity activities up through formal release. Typically this entails representing program management issues from the NASA HQ perspective, answering questions from proposing organizations, especially in the area of NASA HQ policy, representing NASA HQ at pre-proposal conferences, and helping to resolve policy issues
- Works with the PS, the Program Analyst (PA), the Program Manager, the Program Director, and the relevant DD to establish the budgetary cost cap guidelines.
- Identifies the need for environmental assessment or environmental impact and defines level of activity.
- Acts as a liaison between the project and the Office of External Affairs to initiate and achieve international agreements



SMD Handbook (3 of 6)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

DOCUMENTS FORMULATION (PHASE A, B)

- Writes the Formulation Authorization Document (FAD) for both new programs and new projects and negotiates approval
- Drafts letters of assignment to selected Centers for program delegation for SMD AA approval
- Drafts Project Authorization Letters (PAL) for newly selected projects for SMD AA approval
- Develops plans for independent assessments, working with Independent Program Assessment Office (IPAO) for membership and terms of reference for SRBs, or for those chartered by the Directorate.
- Develops content for LOAs and MOUs for external partners and works with the Office of External Relations to formalize the agreements
- Writes the Program Commitment Agreement (PCA) and negotiates the PCA's approval
- Facilitates Program Manager development of the draft Program Plan
- Establishes formal program objectives, requirements, and metrics; prepares program-level requirements; and negotiates approval
- Ensures preparation of required National Environmental Planning Act (NEPA) documentation.
- Recommends the level of governing PMC for projects in accordance with NPR 7120.5 guidelines.
- Recommends and reviews establishment of program and project budgets.



SMD Handbook (4 of 6)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

MONITORS IMPLEMENTATION (PHASE C, D, E)

- Monitors and reviews Center application of project budget and staffing.
- Monitors and reviews program/project development of baseline schedule.
- Monitors and reviews program/project management of risk.
- Reviews implementation of key agreements and contracts for launch services, spacecraft acquisition, science instruments, and other mission-critical items specific to a project.
- Provides planning and oversight of mission operations and data analysis (MO&DA) projects during the post-launch operational phases of science missions.
- Monitors and reviews program/project implementation of technical requirements.
- Participates in the budget process by reviewing Center PPBE submissions for applicable programs and projects in close coordination with the PA.



SMD Handbook (5 of 6)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

ASSESSSES PERFORMANCE

- Assesses program performance against requirements, schedule, and budget, providing NASA HQ insight as required. He/she reports his/her assessment of program/project status to SMD senior staff regularly (monthly).
- Attends and reports on Center-initiated program status reviews.
- Attends and reports on selected project reviews, such as Mission Definition Reviews (MDRs), Systems Requirements Reviews (SRRs), Preliminary Design Reviews (PDRs), Critical Design Reviews (CDRs), and Mission Readiness Reviews (MRRs).
- Provides advocacy and program support within NASA HQ.
- Addresses issues requiring NASA HQ actions for resolution and facilitates NASA HQ actions as required.
- After gate reviews, consults with Center program management to determine necessary actions and decision requirements for NASA HQ and facilitates and monitors NASA HQ's response.
- Provides an assessment of Jet Propulsion Laboratory (JPL) performance on JPL programs or projects as an input to the annual NASA Performance Evaluation of the JPL contract.
- Participates in lessons-learned forums.



SMD Handbook (6 of 6)



- 5.7 Evaluation Subprocess

- 5.7.1 Program Executive Responsibilities for Evaluation

Works to ensure the independent review is properly established and effectively conducted.

- For Category 1 or 2 programs and projects whose governing PMC is the Agency PMC, the PE works with the IPAO, the implementing Center, and the OCE in Phase A to establish the Standing Review Board (SRB).
- For Category-2 projects where the SMD PMC is governing, the PE works with PA&E and the implementing Center to establish an SRB for the project.
- For Category- 3 projects, the PE works with the Center SMA Office to establish the appropriate independent review panels.

For a PNAR, NAR, or PIR, the PE works with the IPAO to construct the Terms of Reference (ToR) to be used by the SRB to conduct these reviews, and helps to select an SRB chairperson and team members with the correct expertise for the specific project to be reviewed and be truly independent of the program/project and free of any potential conflicts of interest.

If the SMD AA calls for a special independent review when needed, the PE takes the lead in writing a charter and assembling a list of prospective candidate chairpersons to present to the SMD AA for a selection. When selected, the PE works with the chair to develop team membership. The SMD AA approves the team membership and charter.

For independent reviews, the PE monitors the assessment performed by the review team and the presentation of its findings. The PE ensures meetings are scheduled, agendas are established, minutes are written, actions are followed-up, review findings are published, and charts are prepared for a summary presentation to the Agency PMC of the SRB results presented to the DPMC. The PE supports the program and project in implementing responses to approved findings from the independent assessment.