

INTEROFFICE MEMORANDUM

TO: COMPANY X DESIGN TEAM  
FROM: [REDACTED] PROJECT SYSTEMS ENGINEER  
SUBJECT: 2006 DISCOVERY PROGRAM AO TEAM MEETING  
DATE: 3/6/20086  
CC: LISA GUERRA, JOHN CHRISTIAN

2006 DISCOVERY AO

As you have heard, NASA has just released an Announcement of Opportunity (AO) for the Discovery Program. For those of you who do not know, the Discovery missions must be developed in less than 36 months and cost less than \$425 million. In order for us to be competitive for this program, we need to have a proposal submitted to NASA before April 5, 2006, which gives us less than 90 days. We will be having our first design team meeting next week, and in order to maximize our time, I would like to outline several issues that need to be dealt with prior to, and within two weeks of, the meeting.

*excellent intro  
would also want to mention LV constraint set by AO -> drives mass & volume of design*

The Principle Investigator (PI) and science team have already determined the mission needs, goals, and objectives, as well as the mission scope and a preliminary concept of operations. Please get your hands on a copy of these documents and come to the meeting with questions for the PI, who will be presenting. On that note, if you have any issues with what the PI has come up with, please submit them to me in writing prior to the meeting so we may be able to discuss all relevant suggestions during the meeting.

*good idea ✓*

After the PI answer questions, I would like to take the time to brainstorm for a while and throw around any ideas you might have. No matter how extreme your suggestions are, I

would like to hear them; your crazy idea might trigger another concept in someone else's head.

Once we have all of the ideas on the table, we will pick several feasible ones and move on to subsystem definition. We will be identifying the required subsystems as well as the necessary testing and integration teams. I will be creating a team, who will work with me, that will be responsible for defining the launch vehicle constraints and integrating our design with the launch vehicle.

Not so much in the proposal phase

In order to proceed as rapidly as possible, we will be taking a top-down approach for the next several weeks. Once we have selected the concepts, I would like to break them into subsystems and have the subsystem leads get with their groups and come up with ways to accomplish the mission, based on their subsystem. For example, I expect the propulsion subsystem to have a preliminary idea of what propulsion method, or methods, would best suit the mission, but nothing more detailed than that. Then, I would also like to know the pros and cons for each system as well as the necessary level of technology. No firm decisions need to be made within the next couple of weeks, but if one method seems better than another, I would like to hear them.

so how & who will do this?

good

Also, make sure we do our research for this; I am sure there has been at least one past mission <sup>2.</sup> in the similar to ours. I want to know what is similar and what is different about the past mission(s) and whether it is applicable to what we are doing. Also, subsystem leads and managers will be getting together shortly to draft project-level requirements which will be distributed among the teams.

could mention pros/cons of heritage to team, even company philosophy

Needs to be done early, w/ PI & science team too

Looking ahead, once we have evaluated all the broad concepts, we will select one and move on from there. Because we are doing a lot of the subsystem conceptual work up front,

↳ again: how & who will do this?

choosing the correct concept for each subsystem should be relatively straight-forward once we have chosen our overall design. From there, requirements will be written down to the subsystem level and the need to develop new technology will be assessed. However, keep in mind that since we are on a limited budget and a very limited schedule, it will be very difficult to fully develop and implement newer technology. While we are developing our

proposal, make sure you take the time to analyze alternative solutions. At the same time however, do not waste unnecessary time overanalyzing the solutions. We do not have the time nor the money for this.

To summarize, next week's meeting will be focused on problem solving, brainstorming, and subsystem definition. After the meeting, I expect the subsystem teams to go to work immediately and be prepared to present their results two weeks after the meeting. ✓ We have a lot of work to do in the next 90 days, but I am confident that we will be successful. We have done excellent work in the past and I expect the same for this mission.

See you at the meeting next week,

Alan Flint, Project Systems Engineer

correct  
←  
not sure what you mean here, trade studies?  
At some pt solution decisions have to be made.

→ getting team on same page