

Space Exploration Logistics Workshop

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Omni Shoreham Hotel, Washington, DC



Group K

Space Logistics Regulations, Policy and Guidance

Group Leader

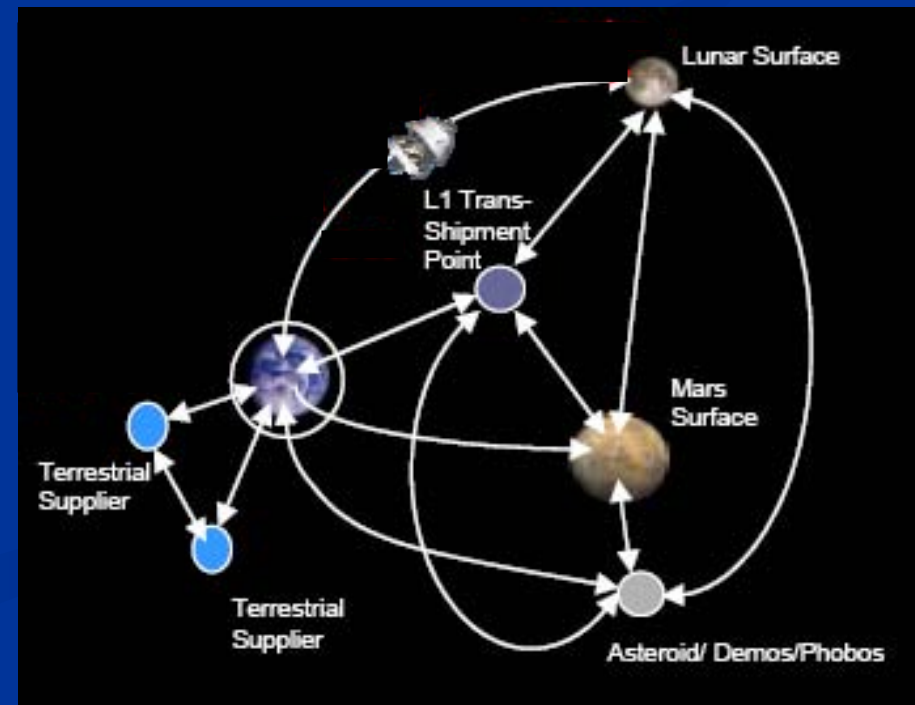
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Session Overview



■ Scope

- A discussion that covers the ‘what, where, when, how many, and how-to’ issues of space logistics regulations, policy and guidance.

■ Goals

- Identify and define the key issues and impacts of logistics on space regulations, policy and guidance — so that these implications can be reflected in design requirements, cost estimates, mission architecture development, etc.

■ Organization

- Identify the important issues (starter list + attendee participation)
- Pick the “top 3” issues/topics relevant to each exploration mission type

Discussion Points



- ❑ Space Logistics Regulations, Policy and Guidance
 - ❑ Are there any in existence today?
 - ❑ If so, are they adequate?
 - ❑ What should be implemented and/or changed for missions to the moon and Mars?
 - ❑ Who should initiate/mandate these regulations/policy?
 - ❑ Best practices?

Top 3 Issues



- Acquisition, Regulations, and Policy
 - Contracts, PBL, Interfaces, NPDs & NPRs
- International Regulations Policies and Protocols
 - Different ways of doing things in different nations: Barter system, Astronaut Training
 - Standards and protocols for foreign participation
- Lack of Integration of Policies
 - National Space Policy Objectives, NASA Space Policy Objectives, National Security
 - Infrastructure Development vs High Tech acquisition
 - Need for strong system integrator

Acquisition, Regulations, and Policy (1)



- Need for effective requirements and specifications
- What can be put into a design specification?
- PBL and how do you flow this into contracts?
 - i.e Metrics based performance arrangements
- Need for consistency in supportability regulations requirements
- Impact of design and procurement approach on logistics and supportability
- Contractual decisions/actions should be based on purely technical grounds rather than political

Acquisition, Regulations, and Policy (2)



- NPDs (NASA Policy Directives)
 - Set forth principles to strategically manage agency
- NPRs (NASA Policy Requirements)
- Often confusing/open-ended directives and requirements
 - Not always clear who is responsible -- programs versus projects
 - Stove pipes hinder collaborative demand planning and commonality
- Policies often encourage “push” – based logistics
 - Increases stockpile and waste
- Need to revise NPDs and NPRs

Acquisition, Regulations, and Policy (3)



- Contracts should include options / flexibility
 - Performance-based contracting versus need for commonality
- Treat space-system appropriations as infrastructure rather than high-tech
 - Changes expectations in Congress
 - Select parts of mission

International Regulations Policies and Protocols (1)



- Cultural issues with respect to Space Station
 - Ex: different ways of doing things in different nations
 - Barter system
 - Astronaut Training
- Standards and protocols for foreign participation

Lack of Integration of Policies (1)



- Mil PRF 49506 and the DOD 5000 series regulations are not being consistently applied across systems (DOD)
 - Wiggle room even within standards
 - High personnel turnover – 2 to 4 years
- Need for early recognition of integration and supportability
- Need for Standardized interfaces early in design process
 - Difficulty standardizing in multi-national settings from design to end-use
 - Need for interface control docs (ICDs) and configuration control board early in exploration program

Lack of Integration of Policies (2)



- Need for strong leadership
- Disconnect between perception of program and state of technology
- Stove pipes and insulation of NASA enterprise
- Sacrifice potential technical advances due to cultural and budget issues
 - Hardware, practices, processes, etc

Lack of Integration of Policies (3)



- Industrial base issues
 - Other nations often ahead in hardware, practices, processes
 - Tension between using proving TRL 6-9 tech and processes versus developing wholly new tech
- Need to develop supplier/industrial base policy for long-term logistics approach
 - Need for modular open system architecture and commonality
 - Flexible rather than proprietary
 - Need to sustain supplier interest through long-term program
- Need for broader understanding of logistics
 - Who do the policies apply to?

Lack of Integration of Policies (4)



- Lack of visibility and real-time information
 - Web-based system may help
 - Problem of fractured databases
 - Need to identify and have visibility for commonality

Issues vs Missions



	ISS	Lunar Short	Lunar Long	Mars
Contracts	H	M	H	H
Inter- national	H	L	M	H
Policy Integration	H	M	H	H