



Evaluation Criteria



Option Evaluation Criteria

1. **Safety Assurances** - The management option can provide the appropriate levels of approval authority and planning involvement (internal Agency representation, definition of budget requirements, management accountability, process control and improvement implementation) to assure the highest priority on the safety of all human life and the protection of national and international assets while remaining user mission focused in facilitating utilization of ISS.

- 2-5. **Leadership Commitments** - The management option can effectively provide the broadest range of advocacy, conflict free integrity (perceived and real) and the highest quality research services to the user and stakeholder communities in fulfilling the overall ISS utilization objectives while assuring the accomplishment of the specific goals, objectives and requirements within and across each of the three research areas of endeavor:
 2. **Science**
 3. **Technology**
 4. **Commercial**
 5. **Integrated Science/Technology/Commercial**



Option Evaluation Criteria, cont'd

- 6. International Involvement** - The management option can provide the authority, resources and accepted international recognition to not only comply with international commitments but to also propose international partnerships deemed beneficial which NASA would arrange as the owner of ISS resources. These proposals should leverage international assets through partnerships, barter agreements and other contract arrangements in achieving maximum effective ISS utilization. The organizational interface complexities in initiating opportunities (directly and indirectly) and in performing these responsibilities should be as simple as possible and provide high accountability for results to the Agency, the National S/T/C user communities and the International research communities.

- 7. Quality of Human Resources** - The management option structure, size, opportunities, positions of influence, incentives and culture can attract the “best and brightest” in fulfilling the broad nature of the leadership, advocacy, technical skills, management expertise, business acumen practices, innovative improvements and customer oriented attitudes for each the three research endeavors.



Option Evaluation Criteria, cont'd

8. **Strategic Focus** - The management option can provide responsibility for achieving and maintaining focus on excellence in ISS Utilization as its highest priority and has its goals and objectives aligned to the strategic plans of the S/T/C user community and sponsoring research entities. The management option can provide an organization structure that enables this responsibility and is responsive to changing research needs in a timely, flexible and adaptable manner.

9. **Responsiveness** - The management option can align its budget and staffing, and provide the management focus and flexibility in its processes to be responsive to user requirements and to achieve increased research utilization opportunities, output and outcome through continuous process improvement mechanisms and lessons learned.



Option Evaluation Criteria, cont'd

- 10. Improved Access and Resources** - The management option can provide the capability to optimize the use of current and future available space access and ISS resources. This will support the highest priority use of ISS research on a World-class International facility. This includes authority, position of influence, resources and appropriate external organizational interfaces to advocate, negotiate, and secure commitments for the user communities. Examples of necessary and dependable access resources include the frequency, timeframe, and location of launch opportunities, vehicle ascent and descent resource allocations, and ISS resource allocations and contingency accommodations.
- 11. Shorter Time to Discovery** - The management option can provide (allows for the establishment of) stable research funding commitments and efficient outcome driven user centric processes, including research selection and multiple flight approval as appropriate in order to reduce the end-to-end life-cycle time of a payload.



Option Evaluation Criteria, cont'd

- 12. Customer Focus** - The management option can be structured to effectively involve the S/T/C user community in all phases of planning, designing, implementing, conducting and evaluating utilization of the ISS, to foster trusted confidence and greater external involvement of the user community in ISS utilization, and to focus on responding to the voice of the customer in its ability to simplify and streamline the processes associated with ISS utilization.
- 13. Performance Accountability** - The management option can provide leadership values and performance expectations that are user focused, aligned with the available resources and consistent with all organizational commitments. The management processes, lines of authority, ownership of responsibilities and process improvement actions should reflect maximum organizational accountability for performance in accomplishing and improving the desired user outcomes.



Option Evaluation Criteria, cont'd

- 14. Integrity** - The management option can efficiently provide stewardship of public monies and assets, selection processes, and custodial responsibilities for intellectual properties and fulfillment of commitments (users, stakeholders and partners).
- 15. Knowledge** - The management option can achieve maximum dissemination of appropriate research results for use in education, outreach and new knowledge awareness creation.
- 16. Facilities** - The management option can obtain the necessary facility resources to perform its responsibilities and can maximize the accessibility, availability and overall cost effectiveness in the use of the required facility resources, including those that are owned and/or operated by the government.



Option Evaluation Criteria, cont'd

- 17. Policy and Interface Responsibilities** - The management option can effectively adhere to and preserve the required government policies and oversight requirements and interface with and/or perform the functions that are inherently or appropriately governmental in nature with minimum implementation complexity and no negative impact to the overall governmental responsibilities of the Agency.

- 18. Financial Expenditure** - The management option can be structured to provide cost effective implementation and sustaining expenditures, and can provide certainty and confidence in the commitment of resources required to produce the best value to the researcher over the life of the research project and processes.



Option Evaluation Criteria, cont'd

- 19. Funding and Support Advocacy** - The management option can provide a capability to effectively advocate and acquire viable and sustainable funding resources, including capital investments, broaden the ISS user community, obtain and maintain external relationships, and clearly communicate the relevance of outcomes and the desired resource requirements necessary to proactively support the ISS user communities of S/T/C.



Option Summary Comparisons



Option Summary Comparison - part 1

	Option 1 - NASA Reinvention	Option 2 - Non-Profit Institute	Option 3 - FFRDC	Option 4 - Gov Corporation
a. Business Model Definition	A new Enterprise that manages utilization infrastructure to facilitate ISS utilization.	A contract to a non-profit organization devoted to research.	A not-for-profit entity, operating as a strategic partner with NASA to solve complex technical problems associated with research and analysis.	A non-profit entity which combines the flexibility of a business with the public purpose and duties of the government.
b. Functional Description	The new Enterprise provides focus on STS/ ISS Utilization Management and provides greater advocacy and visibility to the user community.	The Institute provides Science/Technology/ Commercial leadership, manages Guest Investigator programs, and sustains and/or develops designated payloads.	An entity that performs strategic and tactical utilization management, Science/ Technology/Commercial leadership, customer integration and operations support, and manages data dissemination and archiving.	The Government Corporation provides a customer-centric organization to facilitate and optimize academic, government, and industry utilization of the ISS.
1. Functions transitioned to the NGO	n/a	Lead: 13a, 18, 19, 20 Lead: 3a, 4, 5a, 6, 7, 8, 9 - case specific Lead: 1b, 3, 4, 5a - GI only Support: 1a, 2, 5b, 6b	Lead: 1b, 1c, 3a, 3c, 4, 5, 6* (customer support), 6c, 7, 8, 9, 13, 14, 16, 18, 19, 20 Support: 0, 1a, 2a	All except 0, 12, 17
2. Functions retained by NASA	All	0, 1a, 1c, 2, 4, 5b, 10, 11, 12, 13b, 14, 15, 16 3, 4, 5a, 6, 7, 8, 9 case specific	0, 1 (contract oversight), 2, 6a, 6b, 12, 15	0, 12
c. Proposed Transition Period	FY03-FY04	FY05-FY09	FY04 - FY07	FY06-FY08
d. Unweighted Blue Team Evaluation Criteria Score	25	21	25	29
e. Major Strengths (3)	<p>1. Integrated flight research strategy across NASA, other government agencies, and platforms</p> <p>2. Customer focus with Smart Integration Team responding to customer needs</p> <p>3. Utilize current human capital strengths and experience within NASA</p>	<p>1. Provides independent leadership for, and representation of, S/T/C user community while NASA Enterprises retain control of ISS utilization priorities and direction</p> <p>2. Maintains the balance of technical and leadership competencies between NASA and the Institute</p> <p>3. Minimal impact to ISS vehicle, vehicle interfaces, and ongoing integrated engineering activities</p>	<p>1. Leads all Functions necessary to represent S/T/C community</p> <p>2. Ability to partner w/NASA to represent ISS users at all appropriate board levels</p> <p>3. Ability to more effectively advocate ISS users</p>	<p>1. Powerful organization with high likelihood of realizing positive change for ISS Utilization</p> <p>2. Direct access to Congress and capability for self-promotion and revenue production</p> <p>3. Provides smooth and safe transition of functions and personnel</p>



Option Summary Comparison - part 2

	Option 1 - NASA Reinvention		Option 2 - Non-Profit Institute		Option 3 - FFRDC		Option 4 - Gov Corporation	
f. Major Weaknesses (3)	1. Perception as status quo		1. Difficult to provide leadership for all 3 (S/T/C) communities and multiple science disciplines with one Institute		1. Interface concerns		1. Final content of Charter not controlled by NASA	
	2. Perceived or real difficulty in reorganizing NASA		2. Responsibility for GI program selections and ability of staff to propose introduces potential for conflict of interest		2. By not incorporating PD function into the FFRDC model, a perceived inability to attract "best and brightest"		2. Requires long-term NASA Human Capital Strategy	
	3. Lack of direct jurisdiction by research Codes over research flow on each and every increment		3. Delegating utilization manifesting to the Institute may negatively impact current efforts to consolidate and streamline STS and ISS manifesting		3. Potential for organizational abuse		3. Reduces NASA's ability to leverage expertise across Programs	
g. Outcome Summaries								
1. Workforce (FTE)	NASA	NGO	NASA	NGO	NASA	NGO	NASA	NGO
	CS/Cont	Total	CS/Cont	Total	CS/Cont	Total	CS/Cont	Total
FY03	631/1785	0	626/1780	0	626/1780	0	626/1780	0
FY05	589/1634	0	582/1621	73	375/1467	479	589/1634	65
FY07	557/1467	0	510/1271	412	243/371	1712	55/48	2331
2. Budget (\$M)	NASA	NGO	NASA	NGO	NASA	NGO	NASA	NGO
FY03	342	0	341	0	341	0	341	0
FY05	327	0	317	18	301	69	326	10
FY07	283	0	228	88	91	282	40	327
3. Potential Competency Impacts by Center	All: Low		All: Low		ARC: Medium GRC: Medium JSC: High KSC: Low MSFC: High		ARC: High GRC: High JSC: High KSC: High MSFC: High	
4. Potential Facility Impacts	Low		Low		Medium		Medium	
h. Ease of Establishment	Low		Medium		Medium		High	
i. Transition Difficulty	Low		Low		Medium		High	
j. Human Capital Impact	Low		Low-Medium		Medium-High		High	



Option Functional Allocation Comparison - part 1

	Option 1 NASA Reinvent	Option 2 Institute	Option 3 FFRDC	Option 4 Gov. Corporation
0) Define, Develop and Implement Policy and Strategic Plans	-	-	S	S
1) Management of Research Utilization		S	S	L
a) Establish Research Plans		L (GI only)	L	L
b) Manage Research Programs		L (sched.)/S (boards)	L	L
c) Manage Integrated Research Utilization				
2) Preparing and Allocating Budgets		S	S	L
a) Budget Formulation, Justification		S	-	L
b) Budget Execution				
3) Selecting and Prioritizing Research		L (selected)	L	L
a) Managing selection process		L (GI only)	-	L
b) Selection		L (GI only)	L	L
c) Prioritizing selections				
4) Establishing Payload/Experiment Requirements and Feasibility		L (selected)	L (NASA Staffed)	L
a) Research Requirements		L (selected)	L (NASA Staffed)	L
b) Engineering Concept Development & Hardware Assessments				
5) Developing Cost, Schedule, and Risk Assessments		L (GI only)	L (Existing Hardware)	L
a) Perform Cost, Schedule, Risk Management Assessment		S	L (Existing Hardware)	L
b) Authority to Proceed				
6) Developing and Qualifying Flight Research Systems		L (selected)	S (Customer Integ.)	L
a) DDT&E		S	S (Customer Integ.)	L
b) Subrack Integration		L (selected)	L	L
c) Operations				
7) Maintaining and Sustaining Flight Research Systems		L (selected)	L	L
a) DDT&E		L (selected)	L	L
b) Operations				
8) Developing Ground Systems		L (selected)	L	L
9) Maintaining and Sustaining Ground Systems		L (selected)	L	L
a) Identify changes/upgrades to Research Flight Systems		L (selected)	L	L
b) Maintain & Sustain Research Ground Systems				



Option Functional Allocation Comparison - part 2

	Option 1 NASA Reinvent	Option 2 Institute	Option 3 FFRDC	Option 4 Gov. Corporation
10. Constructing Ground Facilities				
11. Maintaining Ground Facilities				
12) Certifying Safety of Research Flight and Ground Systems	-	-	-	S
13) Managing Missions and Allocating Services				
a) Advocacy, Manifesting and Resource Allocations		L / S (Approve serv)	L	L
b) ISS Research Mission Management		S	L	L
14) Integrating User Mission – Analytical				
a) Payload Engineering Integration			L	L
b) Payload Software Integration and Flight Production			L	L
15. Integrating User Missions - Physical			-	L
16) Integrating User Missions - Operational				
a) Payload Training			L	L
b) Operations Integration			L	L
17) Conducting Research & Analysis and Disseminating Results	-	-	-	-
18. Educating and Reaching Out to the Public (including industry)				
a) Management and Control		L	L	L
b) Disseminate, Communicate & Report results to ISS customers		L	L	L
19. Recommending ISS Pre-Planned Product Improvements		L	L	L
20. Managing Archival of Research Samples, Data, and Results		L	L	L

	Inherently governmental/appropriately NASA led
	NASA
	NGO Leads
	NGO Leads portion, Supports remainder
	NGO Supports
	PI/PD performs
	As appropriate



Competency Assessment Proposal



Competency Implications

- Red Team II charter included the action to review model outcomes...for core competency implications
- Their observation was that the product to date does not have sufficient definition and detail to perform a complete competency implications assessment
- Their recommendation recognizes that an assessment of Center and Agency competency implications requires additional validation and evaluation of competency data
 - Define a methodology (for each Center to use)
 - Assess the data in context of individual models
 - Issue findings with respect to Agency impacts
 - Review findings by Center to assure Center unique impacts are addressed



Assessment Proposal

- The Blue Team also recommends additional validation and evaluation of competency data
- Agency action through the NASA Competency Team is making progress on development of an Agency-wide Competency Dictionary and a data collection and assessment process
 - Competency Team expects to have data available for Centers to review and verify by the end of October
- Assessment of competency implications for the ISS Utilization Management options should use the products of the NASA Competency Team once they are available
 - Recommendations concerning functions and options made during this meeting will facilitate the development of a focused methodology and assessment of Center and Agency impacts



Questions for Discussions



Questions for Discussions

- Which functions are most suitable for consideration for an NGO?
- Which options appear to be most feasible to implement?
- Is anything missing from the proposed evaluation criteria? Which elements of the criteria are most critical?
- Should other change activities contemplated within the Agency impact the approach to be taken or the timing of implementation?
- Given these considerations, what focused recommendation can we provide to the Enterprise Council and the Administrator?



Evaluation Criteria

Backup Material



Initial Blue Team Scoring - part 1

Scoring: +2 (excellent), +1 (good), 0 (neutral), -1 (deficient), -2 (poor)	Weighting Factor	Option 1 NASA Reinvent	Option 2 Institute	Option 3 FFRDC	Option 4 Gov. Corporation
1 Safety Assurances - The organization has the appropriate levels of approval authority and planning involvement (internal Agency representation, definition of budget requirements, management accountability, process control and improvement implementation) t		2	0	1	0
2-5 Leadership Commitments- The organization can effectively provide the broadest range of advocacy, conflict free integrity (perceived and real) and the highest quality research services to the user and stakeholder communities in fulfilling the overall ISS u 2 a. Science 3 b. Technology 4 c. Commercial 5 d. Integrated S/T/C		- 1 1 1 1	- 2 1 1 1	- 2 2 2 2	- 2 2 2 2
6 International Involvement § The organization has the authority, resources and accepted international recognition to not only comply with international commitments but to also leverage international assets though partnerships, barter agreements and other c		2	0	-1	0
7 Quality of Human Resources- The organizational structure, size, opportunities, positions of influence, incentives and culture can attract the Nbest and brightestÓ in fulfilling the broad nature of the leadership, advocacy, technical skills, management exp		1	2	1	2
8 Strategic Focus - The organization is responsible for and is structured to achieving and maintaining focus on excellence in ISS Utilization as its highest priority and has its goals and objectives aligned to the strategic plans of the S/T/C user community		1	2	2	2
9 Responsiveness - The organization can align its budget and staffing, and provide the management focus and flexibility in its processes to be responsive to user requirements and to achieve increased research utilization opportunities, output and outcome th		1	1	2	2
10 Improved Access and Resources- The organization has the capability to optimize the use of current and future available space access and ISS resources. This will support the highest priority use of ISS research on a World-class International facility. Thi		2	2	2	2



Initial Blue Team Scoring - part 2

Scoring: +2 (excellent), +1 (good), 0 (neutral), -1 (deficient), -2 (poor)	Weighting Factor	Option 1 NASA Reinvent	Option 2 Institute	Option 3 FFRDC	Option 4 Gov. Corporation
11 Shorter Time to Discovery- The organization has a mission focus that establishes the highest priorities to providing stable research funding commitments and efficient outcome driven user centric processes, including research selection and multiple flight		2	1	1	2
12 Customer Focus - The organization is structured to effectively involve the S/T/C user community in all phases of planning, designing, implementing, conducting and evaluating utilization of the ISS, to foster trusted confidence and greater external involve		1	2	2	2
13 Performance Accountability- The organizational leadership values and performance expectations are user focused, aligned with the available resources and consistent with all organizational commitments. The management processes, lines of authority, ownershi		1	1	1	2
14 Integrity - The organization can efficiently provide stewardship of public monies and assets, selection processes, and custodial responsibilities for intellectual properties and fulfillment of commitments (users, stakeholders and partners).		2	2	2	1
15 Knowledge Š The organization can achieve maximum dissemination of appropriate research results for use in education, outreach and new knowledge awareness creation.		2	2	2	2
16 Facilities - The organization can obtain the necessary facility resources to perform it responsibilities and can maximize the accessibility, availability and overall cost effectiveness in the use of the required facility resources, including those that ar		2	0	0	-1
17 Policy and Interface Responsibilities - The organization can effectively adhere to and preserve the required government policies and oversight requirements and interface with and/or perform the functions that are inherently or appropriately governmental i		1	0	-1	1
18 Financial Expenditure Š The organization is structured to optimize implementation and sustaining costs, and can provide certainty and confidence in the commitment of resources required to produce the best value to the researcher, over the life of the rese		1	-1	1	2
19 Funding and Support Advocacy- The organization should be capable of effectively advocating and acquiring viable and sustainable funding resources, including capital investments, broadening the ISS user community, obtaining and maintaining external relatio		0	2	2	2
Total		25	21	25	29