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# **Reinvent Option Advantages/Disadvantages/Risks/Risk Mitigation**



# Reinvent Option

## Advantages/Disadvantages/Risks/Mitigation Plans

### Legal Structure

Advantages	Disadvantages	Risk	Risk Mitigation
No additional legal authority is required for a NASA Division since authority comes from NASA's mission as defined in the Space Act	Government statutes and regulations must be followed along with Congressional direction.	Congressional demand that an NGO be established along with presidential severe downsizing of civil service staff	Structure Reinvention to remedy those issues indicated by user community as "broke" and communicate changes to user community with hopes of their feedback to Congress.
Well-defined set of policies and directives currently exist	Cannot lobby	That value of Reinvent NASA is never recognized	Continue customer feedback and surveys with FOLLOW-UP on improvements or why nots
Can perform Inherently Governmental functions			
Can hold property and loan property to other organizations			
Permits reimbursement via Space Act Agreements			
Ability to make agreements with other governments			

### Characteristics

Advantages	Disadvantages	Risk	Risk Mitigation
Direct International coordination and ability to invest authority in IP's, e.g., final verification approval			
Government leadership emphasizes US role as leader in space science and technology			



# Reinvent Option

## Advantages/Disadvantages/Risks/Mitigation Plans

### Characteristics

<b>(continued)</b> Advantages	Disadvantages	Risk	Risk Mitigation
Activities subject to NAC	NASA does not always follow NAC recommendations	Alienation of science community	Strengthen interfaces with science community via the Research Council and bring accomplished and recognized scientists into leadership roles within NASA
Integrated flight research strategy across NASA and other government agencies, e.g., DOD, DOE, NIH, FDA		Potential to deviate from NASA's mission	Retains the expertise to understand the needs of various outside elements while maintaining focus on accomplishing NASA's mission
Provide Customer Focal Point as single POC to researcher and isolates research from process	Not assuring that customers needs are clearly understood	Total misinterpretation of customer and/ or researcher needs	Close coordination with the Developers, while allowing the Developers for the researcher to also use their expertise and knowledge in interpretation of research element needs
Provide Smart Integration Team to support the development of integration products and assist the PDs through the process			
Create new Enterprise (Code Z) to elevate Research Utilization Office to ISS and STS Program equivalent structure	Builds yet another Enterprise at HQ	Research Codes U, S, Y & M may view as in conflict	Provide a Chief Scientist and strong Research Council to bridge with the Research Codes
Code Z chairs the SSUB and has authority over cross enterprise ISS and STS research and thus will ensure representation of ALL programs	Research codes have no direct jurisdiction over research flow on each and every increment	Research codes may feel Agency Research priorities are being jeopardized	Provide a Chief Scientist and strong Research Council to bridge with the Research Codes



# Reinvent Option

## Advantages/Disadvantages/Risks/Mitigation Plans

### Characteristics

(continued)

Advantages	Disadvantages	Risk	Risk Mitigation
Provides Program Chief Scientist who can focus research pursuits and make research thrust visible to the science community while cognitive of Mission management constraints	Code U not directly involved in flight manifest decisions for research to be flown	Out of touch with Code U vision	Establish IWG's with Enterprise representatives for each increment similar to that of SpaceHab and historic SpaceLab and close Liaison of Chief Scientist to Code U--having office at HQ
Ability to implement cost reduction in hardware verification activities through CI	No "unified" effort across development Centers to ensure standardization of processes and acceptance of risks	Lack of "buy-in" at various centers	Mandated top down from HQ, e.g., Gregory
Managed by civil service with contractor support	Perception that engineering is total focus of ISS since NASA viewed as engineering organization	Continue to be perceived as an engineering organization	Program scientists advertise as a science organization through increased outreach efforts
Ability to combine contracts	Removes competition	may not result in best value	Be selective on contract consolidation to ensure best value
Provide STS/ ISS Research Council comprised of rotating IPAs from science community which also advocates to external community, provides guidance in strategic research goals, reports to NAC			
Corporate knowledge and experience has been established	May be viewed as not responsive to new processes which may be simpler and with fewer interfaces	No gain in productivity	Establish good communication throughout program



# Reinvent Option

## Advantages/Disadvantages/Risks/Mitigation Plans

### Characteristics

(continued)

Advantages	Disadvantages	Risk	Risk Mitigation
Ability to implement continuous improvement process at all levels from Mission Management to PD			
Establish Commercial Utilization as one division which allows faster response and turnaround for commercial community			
Establish Education and Outreach Division within this code to better advertise what is available on ISS and make available better data retrieval of existing materials		Potential for duplication of effort or requested to pull back division	Establish Division with well defined goals and responsibilities in compliance with Education Office
Establish STS/ ISS Payloads Office to perform integrated Research Utilization Management, tactical manifesting, analytical engineering and operations, mission management and preplanned product improvement	Potential for creating an office with an engineering focus with no checks and balances	Perceived as a non-science entity (just engineering)	Create strong Science Group with rotating IPAs and Research Council; also have Chief Scientist in Residence at site
Representatives from other Enterprises detailed to Code Z to support transition of manifesting and mission management in one Enterprise	Dilution of other codes or double work	Alienation of other Codes	Direction for establishment of Code Z would have to be from above and in agreement with other Codes



# Reinvent Option

## Advantages/Disadvantages/Risks/Mitigation Plans

### Budget and Finance

Advantages	Disadvantages	Risk	Risk Mitigation
Requires minimal funding for implementation			

### Procurement

Advantages	Disadvantages	Risk	Risk Mitigation
Procedures for buying and selling goods and services are established and well known	Federal procurement and disposal regulations require procedures that are time consuming and paperwork intensive		

### Workforce

Advantages	Disadvantages	Risk	Risk Mitigation
Current personnel have learned from 10 years of dealing with ISS issues and bring experience	Numbers of civil servants involved reduce available manpower to new pursuits which NASA should be addressing vs. remaining an Operations organization	Aging workforce (25%) going into retirement and loss of corporate memory and experience base	Open hiring and implement mentoring program with personnel matrixed to ISS, but also venturing into other programs as more contractor support assumes responsibility



# Reinvent Option

## Advantages/Disadvantages/Risks/Mitigation Plans

### Facilities

Advantages	Disadvantages	Risk	Risk Mitigation
Retain current facilities utilization where ground support systems have been well established	All facilities involved could potentially be released for other programs. Many of the facilities may be aging requiring refurbishment investments in 5 years or less since they are already elements dating to early '60's.	Aging facilities at development centers which may eventually result in extensive overhead costs	Agency recognize the issue throughout all centers

### Management Structure and Interfaces

Advantages	Disadvantages	Risk	Risk Mitigation
Retains basic structure that is well understood by User's as we now enter Increment 5. Retains people with historical expertise to establish Code Z.			
HQ OBPR (source of Science Policy) retains membership in many ISS Boards			
Removes potential for mgmt conflict of interest & mgmt of research budgets vs. multi-use infrastructure	Lack of control by science organization whom ISS is supposed to be serving	Lack of visibility into real science needs	Establish good liaison persons, e.g., Chief Scientist, Science Working Group



# Reinvent Option

## Advantages/Disadvantages/Risks/Mitigation Plans

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### Timeframe and Schedule

Advantages	Disadvantages	Risk	Risk Mitigation
No additional financial burden as result of need to implement transition phase seen in other models			

### Performance Evaluation

Advantages	Disadvantages	Risk	Risk Mitigation
Strict well established definition exists for evaluating contracts	Often viewed as limiting due to government regulations		



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# **Institute Option Advantages/Disadvantages/Risks/Risk Mitigation**



# Institute Option

## Advantages/Disadvantages/Risks

	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Purpose</b>				
<b>Legal Structure</b>	Well-established precedent for establishing research institutes, governed by NPG 5000.1	A non-profit organization might not be best-suited to provide engineering functions		
	Contract provides NASA with oversight control, while allowing the institute to provide independent, intellectual leadership	The institute may not assume inherently governmental functions		
	Historical NASA precedent of successful research institutes			
	Minimum 10 year contract (base with options) allows long term Agency commitment with opportunity for modifying strategic direction of institute			
	Institute structure has a finite life span governed by the contract.			
<b>Characteristics</b>	Maintains a clear and public NASA affiliation and acknowledges NASA sponsorship	The addition of engineering functions to a research focused Institute may dilute the primary goal of S/T/C leadership and will make the organization larger and more complex	Institute will become larger and more complex due to addition of engineering functions	Limit number and types of payloads Institute develops in order to manage engineering functions and strike a balance between staffing critical competencies for both the IRI and NASA while enabling development of Institute knowledge
	Provides an intellectual leadership role outside of NASA	Research institute must be enhanced to enable appropriate representation and management of technology and commercial utilization	Institute may not adequately represent the diverse user communities	Structure contract incentives to provide S/T/C representation. Structure RFP to seek organizations structured to work with entire user community. Board of Directors has representation from all relevant NASA Enterprises and the Chief Scientist.
	An institute with strong leadership and user representation may be perceived as more fully engaging the user community in the utilization process, leading to increased customer satisfaction and enhanced advocacy by the users	Potential for real and perceived conflicts of interest in managing the selection process	Potential for conflicts of interest for selections a) where Institute personnel propose, b) commercial proposals from Institute subcontractors	a) Institute personnel allowed up to a certain percentage of selected proposals, b) commercial proposals selected based on objective criteria c) internal Institute firewalls for evaluation and selection personnel
	Facilitates scientific and industrial community access to ISS space and ground-based assets	Institute cannot negotiate and approve agreements directly with the International Partners	Institute performance is directly affected by implementing new and current IP agreements and barbers	COTR and Institute have representatives supporting the negotiation process
	Fosters cooperation, not competition, among the Government, academic, and industry sectors	STS and ISS manifesting are in the process of being combined to the benefit of both. If the IRI is responsible for ISS manifesting, the processes are divorced again.		
	Adheres to NASA's policy of independent peer review for research			



# Institute Option

## Advantages/Disadvantages/Risks, cont'd

<b>Characteristics</b>	Internal NASA scientists not excluded from participating in research			
	Allows institute to be an optional service for independent user organizations			
	Opportunity to partner with users for payload development can enhance the Institute's payload development capability			
	Facilitates user community access to the ISS			
	Provides capability to manage development of payloads on a case-by-case basis upon institute/NASA agreement			
<b>Budget and Finance</b>	Institute may (and is encouraged to) obtain funding support from other sources, including non-governmental			
	Institute can provide an independent estimate on given functions, enhancing NASA management decisions			
	Represents a long-term funding commitment by NASA			
<b>Personnel and Staffing</b>	Management and intellectual leadership by non-NASA personnel	Potential for salary and compensation discrepancies		
	Ability to hire "best and brightest" due to reputation of intellectual leadership	Limitations on IPA arrangements 6 year limit with 4 year term arrangements		
	Ability to quickly hire			
	Institute employees exempt from Federal civil service regulations			
	May utilize civil service personnel via IPA, maintaining NASA technical and managerial expertise and core competencies			
	Direct participation of Civil Service without loss of benefits and position			
	Allows staffing by federal and state civil servants, academia, and industry personnel			



# Institute Option

## Advantages/Disadvantages/Risks, cont'd

<b>Management Structure and Interfaces</b>	Overall management direction and guidance provided by a cross-Enterprise Board of Directors with contract management provided by OBPR	Must work within current STS and ISS board structure. Potential for duplication of boards within the Institute.		
	Provides focal point for PI interfaces	Must manage interfaces for multiple science disciplines and S/T/C		
	Provides additional user advocacy to the existing ISS board structure			
<b>Procurement</b>	Implements a 'best value' research program for available resources	Subject to FAR requirements that apply to Federal contractors		
<b>Timeframe and Schedule</b>	Allows current contract consolidation and continuous improvement activities to continue	Procurement schedule for a large, complex contract is relatively long	Contractor may not be prepared to meet transition schedule	If PEB determines transition criteria not met, additional functions are not transferred to Institute
	Standard procurement activity may start immediately upon congressional notification		Contractor may not adequately perform a function	Institute initially performs a support role for all functions prior to transition of the lead role. Lead role will not transfer in transition criteria not met.
	Phased transition based on successful meeting of transition criteria mitigates transition risk			
	Transition schedule may be shortened based on contractor performance			
	Contract award post-US core complete in a more stable ISS program			
<b>Performance Evaluation</b>	Performance evaluated based on metrics, governed by NPG 5000.1			
	Performance Evaluation Board determines successful meeting of transition criteria in order to transition additional functions via placement of orders and exercise of options			



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# **Government Corporation Option Advantages/Disadvantages/Risks/Risk Mitigation**



# Government Corporation Option Advantages/Disadvantages/Risks

G-Corp	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Legal Structure</b>	Can perform Inherently Governmental functions	Requires a Charter of Incorporation written by Congress	Congress may be unwilling to Charter the G-Corp	Case for the G-Corp must be well made and represented through traditional Congressional consensus-building
	Can hold property and loan property to other organizations	Final Charter content is not controlled by NASA	Scope and content of Charter can change beyond intent of NASA concept	Scope and content of the G-Corp must be well defined and represented through traditional Congressional consensus-building
	Can sue without Justice Department authorization	Potential for conflicts between public purpose and private profit-making interests	Profit-making maximization could be at odds with the execution of national policy objectives	Well-crafted Congressional Charter must make clear the roles and responsibilities of the Corporation itself, the Executive Management, and the Board of Directors
	Is exempted from selected CS rules and Freedom of Information Act limitations			
	Can engage in advertising and self-promotion activities Can make agreements with other governments			
<b>Budget and Finance</b>	Direct Congressional appropriation for the G-Corp base funding eliminates vehicle -vs.- utilization conflict in ISS Utilization budget	Establishment of the G-Corp reduces the NASA budget for those functions moved to the G-Corp	NASA has reduced potential for covering ISS vehicle problems/cost overruns	ISS vehicle costs and technical issues must be well managed
	Various methods of funding are available, including: • Direct Congressional appropriations • Government-guaranteed loans Fees for performance and services	Additional budget required to implement	Congress may not agree to authorize additional funding	Case for G-Corp and required funding must be well made through traditional Congressional consensus-building
	Ability to mix appropriated and revenue funding to maximize accomplishment of research goals and objectives	Possible need to introduce or raise fees for provided services to commercial users	Lack of demand could lower revenues which force raising of fees to compensate, thus resulting in higher costs for research	Direct Congressional appropriation for the Government Corporation base funding would need to be increased to maintain level fees to cover actual costs
	Use of standard accounting practices traditionally applied by industry	Flexibility of standard accounting practices provides opportunities for inappropriate or unethical practices	Lack of integrity in the implementation of standard accounting practices can lead to unethical and detrimental financial results for the stakeholders	CFO and accounting staff must be experienced, and leadership must instill high ethical practices while implementing appropriate controls and independent reviews
	Eliminates Gramm-Rudman-Hollings cap impacts Provides special tax exemption status			



# Government Corporation Option

## Advantages/Disadvantages/Risks, cont'd

G-Corp	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Personnel and Staffing</b>	Ability to attract and hire best and brightest through relaxed staffing rules and regulations	Potential for salary and compensation discrepancies	Potential for negative employee moral issues	Sponsoring organization can use bonuses, awards, or other recognition as individual incentives to "close the gap"
	Ability to quickly hire and fire	Exemption of staffing rules and regulations must be included in the G-Corp charter	Congress may not want to include exemptions in the G-Corp Charter	Case for the exemptions must be well-made and represented through traditional Congressional consensus-building
	Creation of a collaborative, "single badge" environment of skills and expertise from academia, industry and government	Potential for possible sponsoring organization re-entry efficiencies	Re-entry employees may require some adjustment time upon returning to the sponsoring organization	Is worth the disadvantage considering the preservation of core competencies, bridging of functional transition to the NGO, and should bring back varied skills from their experience which will benefit the sponsoring organization (human capital investment)
	Assimilation of leadership with a common objective and focus on research	Six-year limit on IPA arrangements, exceptions require OMB approval. Four-year IPA term arrangements with a required 30-day contiguous return to sponsoring organization between 4-year terms.		
	Ability to initiate organization rapidly with experienced staff			
	Preservation of Agency competencies via ability to allow civil service to participate in G-Corp through the IPA process			
	Direct participation of Civil Service without loss of benefits and position Provides opportunities for G-Corp staff to enhance skills and competencies prior to returning to sponsoring organization			
<b>Management Structure and Interfaces</b>	Recognizes the need for and enables a "process-driven" organizational structure to accomplish the diverse nature of "best practices" unique to scientific, technological, and commercial research endeavors	Removal of functions from NASA may reduce Agency's ability to "spread" expertise across Programs in a timely fashion	Potential for Agency to temporarily "lose" expertise to the NGO via IPAs	Agency must carefully think out strategies and plans for retaining and improving core competencies via the use of personnel in the NGO
	Operates with a National stature and allows direct International Partner interfaces			
	Does not disrupt previous IP agreements			
	Structure is flexible to adapt to changing customer base, needs and demands			
	Direct access and visibility to Congress Provides a single interface for negotiating total research user requirements with NASA and other organizations			



# Government Corporation Option

## Advantages/Disadvantages/Risks, cont'd

G-Corp	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Procurement</b>	Alleviation of requirement to comply with Federal procurement and disposal regulations improves acquisition processes and enables rapid responses to evolving needs and requirements, including: Ability to quickly award contracts, grants, et	Requires government corporation Charter to clearly authorize procurement capabilities	Potential for Charter to not encompass the range of flexibility envisioned	Case for procurement flexibility must be well made through traditional Congressional concensus-building
	Provides capability to assume existing ISS contracts by novation from NASA without incurring additional cost			
<b>Timeframe and Schedule</b>	Takes advantage of consolidation and process improvements already underway within the Agency	Time required for Congressional authorization	Approval process could be lengthy	Case for G-Corp must be well made through traditional Congressional concensus-building
	Allows for quick initiation toward an NGO concept			
	Allows for quicker incremental transfer of responsibilities			
	Provides a smooth transition of critical skills from NASA to the Government Corporation			
	Reduces risks of critical skills leaving the Agency Allows for smooth transition of existing contracts to the Government Corporation			



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# **FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation**



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Legal Structure

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
Legal Structure	No additional authority needed to establish. Well established policy found in section 35.107 of the Federal Acquisition Regulation	Requires notification to Office of Science and Technology Policy (OSTP)	OSTP could object to the creation of a new FFRDC.	Have supporting documentation indicating FFRDC is best structure to represent S/T/C.
		Per 10 U.S.C. 2367, the FFRDC cannot receive any funds from DoD until after 60 day notification to Congress.	Congress could move to stop the expenditure of DOD funds.	Have supporting documentation indicating FFRDC is best structure to represent S/T/C.
	Diverse corporate arrangements allows for the creation of an FFRDC tailored to meet the needs of the sponsoring agency.			
	Can sue without Justice Department authorization			
	Can lobby			
		Cannot make agreements with other governments (IP's)		FFRDC can implement any agreement NASA enters into with IP's.



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Characteristics

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Characteristics</b>				
A Federal agency must sponsor FFRDC and FFRDC must have a specific purpose or mission that is part of the sponsoring agreement. Sponsoring agreement normally is a FAR based contract.	Having a specific purpose or mission limits/prevents organizational conflicts of interest. Also mission statement keeps FFRDC focused.			
FFRDC cannot compete with the private sector.	Limitation on competing with the private sector limits/prevents organizational conflicts of interest.			
Every five years sponsoring agency reviews whether the need and purpose for FFRDC still exist.	Five year review limits potential abuse by requiring sponsoring agency ensure need is still valid. Also allows the mission or purpose to change if the needs of the sponsoring agency changes.			
Sponsoring agreement must contain a provision for winding down the FFRDC when the requirement no longer exists.	The requirement to have a wind down provision matches the expectation that ISS requirement is a finite requirement.			



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Characteristics, cont'd

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
Anticipate long term relationship; exemption from CICA exists for FFRDC.	Long term relationship enables FFRDC to attract and retain high quality personnel. Relationship encourages the FFRDC to maintain currency in its field.	General distrust and reluctance to establish new FFRDC due to CICA exemption and the belief that FFRDC's compete with the private sector.	The special authority granted to FFRDC can be abused.	Ensure the FFRDC is only able to do work which falls within its stated purpose, mission, or special competencies. Review requirement every five years.
Enjoys a special relationship with sponsoring agency with access to sensitive and proprietary data, and to Gov't employees and facilities	Although contractor has access to employees and facilities, only an FFRDC can partner with a sponsoring agency, thus assuming roles a contractor could not perform. FFRDC would be a member of the SSUB.  This access enables an FFRDC to bring together the expertise and outlook of government, industry, and academia to solve complex technical problems that cannot be solved by any one group alone.		The FFRDC performs functions which are inherently governmental as defined by OFPP policy letter 92-1.	Write partnering agreements carefully. Ensure the FFRDC does not manage civil servants or provides funding to the centers.
Operates in the public interest with objectivity and independence	Much less oversight than in a typical contractor relationship		Potential abuse by FFRDC	Review every five years enables rewrite of the sponsoring agreement.  Can evaluate performance as part of an Award fee provision.



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Characteristics, cont'd

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
FFRDC will not be involved in actual research, or final selection.	<p>This limitation should prevents an organizational conflict of interest</p> <p>Complete research allocation is available to entire user community.</p> <p>Diminishes need for the FFRDC to have engineering expertise except to the extent needed to manage engineering contracts.</p>		<p>May hinder the FFRDC's ability to attract qualified people if they want to do science.</p> <p>May hinder the FFRDC's ability to understand the process (smart buyer)</p>	<p>Ability to manage research and ISS utilization should attract appropriate individuals to FFRDC particularly given fact that most individuals in each science discipline have not flown on ISS</p> <p>Gain expertise through the use of IPA's and partnering with the Centers.</p>
NASA will retain competencies associated with being a PD as reflected in functions 4, 5 & 6.	<p>Through Partnering Agreements, the discipline specific Centers will retain Payload Development Functions enabling them to be involved in cutting edge science.</p> <p>Functional allocation enables the FFRDC to take advantage of expertise at the Centers and still have sufficient control to be the lead for customer interface regarding payload development.</p>			
FFRDC's may be classified as studies and analyses centers, systems engineering and integration centers, and research and development laboratories	<p>Flexibility in functions allows NASA to create an FFRDC focused on S/T/C management and the needs of the user community.</p>			



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Budget and Finance

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Budget and Finance</b>	FFRDC may obtain funding support from other sources, including non-governmental	Any work done for private sector (or any Government entity) must come within the FFRDC's stated purpose, mission, or special competencies		NASA must approve any work FFRDC does for an outside source to ensure effort is within mission/purpose of the FFRDC.
	FFRDCs are subject to governmental cost accounting standards and to governmental audits			
		Additional budget required to implement		



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Personnel and Staffing

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Personnel and Staffing</b>				
FFRDC directly hires their personnel, using their own personnel system	Helps attract and retain high quality personnel because personnel system is not tied to the Federal pay schedule	Potentially higher cost to NASA	Highly qualified civil servants may leave NASA for higher salaries resulting in a loss of Center competencies	Centers need to cross train to retain competencies.
Per 5 U.S.C. 3371 et. seq. IPA's can be used to assign NASA civil servants to FFRDC for up to two years with additional two years if approved by the head of the agency	IPA's to FFRDC would assist in orderly transition  Use of IPA's help Centers and users gain confidence in the FFRDC.		IPA's would be making less than personnel at FFRDC. Status of IPA's after returning to NASA is uncertain. Center's ability to retain appropriate skill mixes and Competencies is uncertain if IPA's are heavily utilized.	Human Capital resources need to address these issues. A judicious use of IPA's, as implemented in the FFRDC option, was predetermined to effectively mitigate these risks.



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Management Structure and Interfaces

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Management Structure and Interfaces</b>				
FFRDC's are operated, managed, and/or administered by either a university or consortium of universities, other not-for-profit or nonprofit organizations, or an industrial firm, as an autonomous or an indefinable separate operating unit of a parent organization	<p>Excellent representation of user community since most FFRDC's are nonprofit organizations managed by universities. The nonprofit aspect helps eliminate concern about organizational conflicts of interest. Having an academic base gives credibility, enhances research, and aids in understanding user community needs.</p> <p>The fact that for-profit can be part of an FFRDC help secure necessary engineering expertise and business acumen for commercialization.</p>	<p>May have to limit bidders to nonprofit entities if competition is used to establish FFRDC.</p>	<p>Potential conflict of interest with parts that are for profit.</p>	<p>Available exceptions in CICA to limit competition, e.g., (c) (3)</p>
				<p>Need to create firewalls for organizational conflicts of interest vis-à-vis for-profit participation</p> <p>Have FFRDC contract with for-profits entities as much as possible</p> <p>If FFRDC's relationship with for-profit entities is not through subcontracts, then those parts of the FFRDC that are for-profit must be autonomous organization or an identifiable separate unit of the parent for-profit organization.</p>



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Management Structure and Interfaces, cont'd

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
Established a new position of customer integration and ops support representative (customer rep) for functions 6 & 7.	<p>New position for customer rep achieves one objective of ISS utilization - transparency to users</p> <p>Reduces user interfaces by creating a single point of entry.</p> <p>New position may attract new users.</p>	New position may slightly increase costs of ISS utilization	New position could result in an additional layer.	Need to reorganization the functions NASA is performing. FFRDC in position to suggest such changes.
Interface with ISS Program relative to Safety and CoFR.	Gave FFRDC lead in functions 13, 14 & 16 for complete management of ISS utilization and complete interface with users.		FFRDC will become involved in matters of safety and CoFR.	Establish communications and lines of responsibility and authority between FFRDC and ISS Program. Review/revise allocation of FTE's for functions 13, 14 & 16. Also include IPA's in the transition of 13,14 &16.
Other interfaces		IP interface is not well defined except to assume that the IP's will request the FFRDC process their payloads.		NASA/IP's/FFRDC need to establish protocols.



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Procurement

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
Procurement	Contracts awarded by an FFRDC do not have to comply with all of the FAR; e.g. not required to have full and open competition	Subject to FAR requirements that apply to Federal contractors		Sponsoring agency can have the ability to consent to large contracts as is the case with JPL. This is a streamlined version of the clause; not the version required by the FAR.



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Timeframe and Schedule

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
Timeframe and Schedule				
Establishment via competition	Establishment via competition meets private sector expectations	Delays formation by one year.		
Transition approach	<p>Quickly involved FFRDC in those areas that are perceived to be broken, e.g., outreach.</p> <p>Transitioned engineering functions more slowly to help FFRDC gain engineering expertise and ramp up more easily.</p>		<p>FFRDC is unsuccessful because given too much responsibility in 1st year.</p> <p>Defers having single point of entry.</p>	<p>Have private sector validate the transition strategy via RFI</p> <p>Transition of additional functions based on successful performance.</p> <p>Get input from user community by issuing RFI</p> <p>Allows centers to retain much of the PD functions, but gives lead to FFRDC with customer rep.</p> <p>Carefully allocate functions.</p> <p>Have FFRDC manage engineering under function 13,14 &amp;16 after two years of support to build expertise. Transfer only after successful performance.</p>
Three year transition plan	Allows FFRDC to assume management of ISS utilization quickly to better represent needs of the users	FFRDC may not be able to ramp up in three years		Include proposed transition schedule in RFI
Considered end dates of existing contracts with transition of functions to the FFRDC.	Transition plan does not involve terminating any existing contracts.			



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Timeframe and Schedule, cont'd

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
Considered effect on civil service workforce	Centers retain many of the competencies associated with PD function. Length of transition eases effect on civil service.			Use of IPA's help move expertise from NASA to the FFRDC.
Have NASA continue processing payloads for IP's until IP's request FFRDC performs this function - something the end state assumes.	Strategy avoids much of the interface problems with the IP's and provides the FFRDC with an additional incentive for good performance.	IP interface is not well defined except to assume IP's will request the FFRDC to process payloads.		NASA/IP's/FFRDC need to establish protocols.
Involved FFRDC in management early on	Increases FFRDC to increase its influence with user community.		FFRDC may not perform well because receives too many responsibilities too quickly.	Normally, FFRDC supports before assumes lead. Lead given only after successful performance is demonstrated. Generally, civil servants remain in place until FFRDC demonstrates successful performance. Use of IPA's to give FFRDC needed skills that exist in NASA.



# FFRDC Option Advantages/Disadvantages/Risks/Risk Mitigation - Performance Evaluation

FFRDC	Advantages	Disadvantages	Risk	Risk Mitigation
<b>Performance Evaluation</b>				
An Award fee provision can be included in the sponsoring agreement/contract based on the one in the Caltech contract for the operation of JPL.	Award fee provision allows the sponsoring agency to evaluate the performance of the FFRDC on a periodic basis.  Award fee mechanism is very effective with academically based entity.	If the FFRDC is with an educational institution or other nonprofit, award fee mechanism represents an additional cost to NASA.  Administering award fee plans requires resources.		
Strategy for IP's	FFRDC has incentive to perform well to have IP's request FFRDC process their payloads.			
Additional work only transferred after contractor demonstrates successful performance.	Transition plan provides incentive for FFRDC to perform well.  Ensures NASA that functions will not accrete to FFRDC unless initial performance has been successful.		May take longer than three years to transition functions to the FFRDC.	Pre-establishment of "Performance Gates" as part of the proposal process could mitigate the premature transfer of work.