

Methods Used in Pricing & Conveying NASA Assets for Use by Commercial Programs

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Changes at NASA:

- Immediately after Shuttle retirement decision in 2004, transition planning for NASA's facilities was begun.
- In April 2010 President Obama delivered a speech at Kennedy Space Center in which he outlined his new vision for the U.S. space program. Emphasis was placed on enabling the exploration of Space by Commercial entities instead of by Government.
- Facilities no longer needed for remaining NASA programs were identified, and NASA Centers were charged with leveraging value of underutilized property through initiatives such as out-leasing.
- Focus was placed on development of Commercial Business Partnerships to enable commercial space activities using unused or available facilities and launch infrastructure.

Policy / Guidance:

- **2013 National Space Transportation Policy:** *Ensure availability of Government space transportation technologies, capabilities and facilities to the maximum practical extent*
- **2014 NASA Strategic Plan:** *Expand partnerships with intergovernmental, academic, industrial, and entrepreneurial communities*



New Roles for Kennedy Space Center:

- NASA is providing a new heavy lift processing and launch capability
- NASA is transforming to have Low Earth Orbit (LEO) access (cargo and crew) via commercial providers
- Commercial Space policy strives to maximize commercial use of space
- KSC's role as a traditional single user launch complex is transforming to become a true spaceport supporting multiple users (programmatic, commercial, public)
- KSC Goals include:
 - Supporting both government and commercial vehicle and payload processing and launch
 - Enabling commercial partners to locate life-cycle functions at KSC
 - Facilitating government / commercial common-use processing facilities

Kennedy Space Center - Launch Infrastructure



- **Vehicle Assembly Building** - **8 Acre Footprint, 525' Tall**
- **3 Orbiter Processing Facilities** - **30,000 SF Each**
- **Launch Pads A&B** - **Fuel/Oxidizer Tank (Cap. of 1.8 M Gal.)**
- **Shuttle Landing Facility** - **15,000' Runway, 300' Wide**
- **Operations Support Building** - **200,000 SF 1378 Office Space**
- **Operations Support Building II** - **189,000 SF 860 Office Space**
- **Launch Control Center (4 control rooms)** - **230,000 SF 237 Office Space**
- **Logistics Facility** - **3-story, 230,000 SF**



Launch Complex 39-A

- **Partner**
 - Space Exploration (SpaceX)
- **Type of Agreement**
 - CSLA
- **Synopsis**
 - SpaceX plans to launch Falcon Heavy Vehicles including Commercial Crew from the pad
 - SpaceX pays all O & M costs including repairs
 - Retention of Pad in good working order after the (20) year term
- **Value**
 - SpaceX pays all direct costs associated with the agreement, including essential & demand services
 - approx. \$300k for FY14



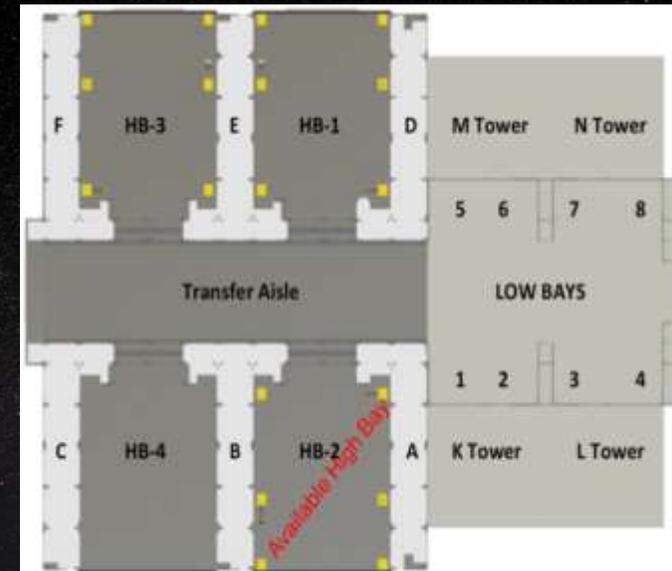
Shuttle Landing Facility

- **SLF + Buffer Zone (~4000 acres)**
- **Partner:** Space Florida
- **Agreement:** Public/Public Partnership
- **Synopsis:**
 - Space Florida plans to make the SLF into a “Spaceport Concept”
 - Retain horizontal launch/landing capability
 - Priority Use for NASA & DOD
 - (30) year term
- **Value:**
 - Space FL pays all O&M – approx. \$2m annually
 - Free NASA landing support up to \$45k annually
- **Status:**
 - Planned Agreement complete: June 2015



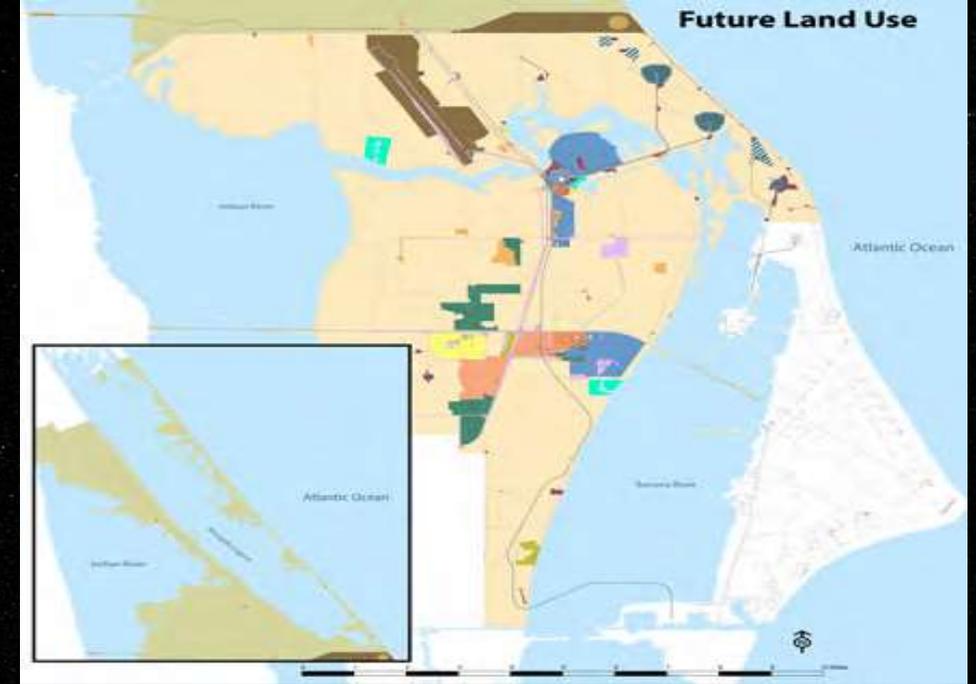
Vertical Assembly Building

- **High Bay #2**
- **Partner:** TBD
- **Agreement:** TBD
- **Synopsis:**
 - AFP includes VAB-HB2, 3 MLP's and possible MLP park site
- **Value:**
 - TBD (Lease rate analysis in work)
- **Status:**
 - AFP & Model Agreements under review



Land Use

- **Implementation of KSC Master Plan**
- **Partner:** TBD
- **Agreement:** EUL
- **Synopsis:**
 - AFP limited to vertical launch, vertical landing and associated launch operations and support, assembly, test or processing
- **Value:**
 - TBD (appraisal-based for specific parcels)
- **Status:**
 - AFP and model agreements in review, scheduled release after Partnership Council approval



Other

- Rail line

- KSC in discussions with Canaveral Port Authority (CPA) to use KSC rail in support of Port operations
- Potential future savings to agency include track O&M and potential capital cost of replacement of rail bridge

- Roads, bridges

- In discussion with state of Florida (FDOT) requesting transfer of O&M responsibility of non-secure roads and bridges at KSC
- FDOT accepts all liability/maintenance costs for transferred roads and bridges
- Approx. 94 lane miles of roads and 3 bridges



Agreement TYPES AND PRICING

NASA Guidance & Authority

- The National Aeronautics and Space Act
- The Economy Act
- The Commercial Space Launch Act
- NASA 2014 Strategic Plan
- The National Space Policy of the United States of America (2013)
- NPR 9090.1A – Reimbursable Agreements
- NAI 1050.1 – Space Act Agreements Guide
- NPD 1050.1I – Authority to enter into Space Act Agreements
- NPR 8800.15B – NASA Real Estate Management Program
- NPD 8810.2 – Master Planning for Real Property

NASA has legal authority to provide facilities, equipment, and services to non Federal entities on a non-interference basis.

Pricing of Reimbursable Agreements

- There are several variations of pricing under the various authorities under which NASA enters into reimbursable agreements, however the baseline requirement for all variations is full cost pricing.
- Any price deviation must begin from the full cost estimate.



Legal Authority To Establish Agreements

- **Economy Act (1932)**
 - Economy Act Agreement – Undertaken between two federal agencies under the authority of the Economy Act
- **Space Act (1958)**
 - Space Act Agreement – a reimbursable (or non-reimbursable) agreement between NASA and a non-government entity, under authority of the National Aeronautics and Space Administration Act
- **Commercial Space Launch Act (1984)**
 - Commercial Space Launch Act (CSLA) Agreement – between NASA and a commercial launch provider, calling for special pricing arrangements, under the authority of the CSLA
- **Commercial Space Competitiveness Act (2000)**
 - for Commercial Space Entities (- so far unused by NASA)

Types of Real Property Agreements:

- **Enhanced-Use Lease (EUL)**
- **Use Permit**
- **Commercial Space Launch Act (CSLA) Agreement**
 - *Allows favorable pricing (direct cost only) for Companies engaged in Space Launch and Landing activities*
- **Reimbursable Space Act Agreement (RSAA)**
 - *Used for facilities, land, and demand services including utilities & commodities*

Primary Guidance for NASA's Agreements

- NASA Procedural Requirement NPR 9090.1A

Covers:

- Administrative Procedures
- Determining Full Cost
- Pricing Reimbursable Agreements
- Enhanced Use Leasing of Real Property

ECONOMY ACT - 31 USC § 1535 (1932)

“Act provides authorization for Federal agencies to request and perform interagency reimbursable work. Under the Act, such reimbursable work must be in the best interest of the Government, and goods and services are less expensive or more conveniently provided by Federal agencies than by commercial vendors.”

- **Application:**
 - Applies only to agreements between Federal Agencies
- **Features:**
 - Requires pricing at recovery of “actual costs” (full costs)
 - Pricing can be rate-based or cost-based..
- **Examples:**
 - NOAA Observation Satellites - Interagency Agreement
 - Lease of KSC office space by FAA for space launch licensing

Economy Act Pricing

- The Economy Act calls for full cost pricing in agreements with other federal agencies
- Pricing can be rate-based or cost-based
 - Must be equally applied to all NASA or non-NASA customers
- Example: USAF wants to lease hangar, office space or land on NASA Center, price is full cost



NATIONAL AERONAUTICS AND SPACE ACT (*"The Space Act"*) – 51 USC § 20101 (1958)

"The Space Act authorizes NASA "to enter into and perform such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, Territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution."

- **Application:**
 - **Agreements w/ Commercial Customers & Federal Agencies**
 - **Authorizes NASA to enter into agreements as may be necessary in the conduct of its work..**
 - **Primary Authority for NASA reimbursable business**

The SPACE ACT (continued..)

- **Features:**

- Allows wide range of Uses and Agreement Topics
- Pricing is “full cost” but may be adjusted in conjunction with direct benefit to NASA
- documentation is required

- **Examples:**

- Use of KSC facilities for Commercial Space enterprise
- Testing of Race Cars on Shuttle Landing Facility (SLF)
- Agreements with Mercedes Benz & Honda for automobile demonstration & testing
- Use of SLF Hangar by Fish & Wildlife Service helicopter

- **NOTE:** The Space Act also allows for NON-REIMBURSABLE Agreements where there is a mutual benefit and NASA and its Partner each bear the cost of their participation.
 (“Quid Pro Quo”)

Space Act Agreement (SAA) Pricing

- Can be used for federal and non-federal customers
- Pricing methodologies can vary
 - Cost-based
 - Standard rate
 - Market-based
- Full cost estimate may be reduced consistent with a measurable agency benefit
 - Documentation required



SAA Pricing: Cost-Based & Standard Rate

- Cost-based pricing via detailed estimate
 - Individual elements of cost estimated and priced based on analysis of work to be accomplished
 - Estimated Price Report (EPR) documents estimate
- Standard rates can be developed, in advance, where work is common and repeatable
 - Must be consistently applied at a Center, to both NASA and reimbursable customers
 - Rates adjusted, as required
 - e.g. wind tunnel, T/V chamber, conference room standard use rate



SAA Market-Based Pricing

- In limited circumstances, customers requesting Center services that are similar to those available on a commercial basis, with appropriate justification, pricing may be developed through a market-based approach
- NASA prices for goods & services should avoid putting outside commercial providers at a competitive disadvantage
 - i.e. price should be adjusted to similar prices charged “outside the gate”
- Market rates are established through annual (or as required) survey
 - Documentation must be maintained
 - Center CFO responsibility
- Market rate must at least recoup the incremental cost of performing the work
- Procedure requires establishment of full cost, with specific cost waived to achieve market price



Waiving Cost for NASA Benefit Under Space Act Agreements

- **NASA may accept reimbursement for less than full cost if there is a benefit to NASA.**
- **Supporting rationale should demonstrate how NASA benefit is achieved and the value of the non-financial compensation.**
- **Rationale and waived amount must be clearly provided on Estimated Pricing Report (EPR).**
- **Procedure requires an initial full cost estimate, with waiver down to desired price.**
- **All cost waivers must be approved by Center CFO and concurred in by cognizant Program Manager.**
- **Waivers shall not be based solely on intangible benefits such as goodwill, community relations, or philanthropic reasons.**



COMMERCIAL SPACE LAUNCH ACT (CSLA) – 51 USC § 50901 (1984)

“Governs the sale, by NASA, of launch and reentry property for fair market value and the sale of launch and reentry services for direct cost only. The charge for launch services or reentry services is an amount equal to the direct costs, including the basic pay of Government civilian and contractor personnel, the Government incurred because of acquisition of the services.”

- **Application:**
 - Agreements with the Commercial Space Launch Industry
 - CSLA was established to provide commercial space companies with incentives to grow the U.S. space launch industry
- **Features:**
 - Private Sector bears reasonable portion of investment risk & responsibility

Pricing Commercial Space Launch Act (CSLA) Agreements

- The CSLA was established to provide the commercial space launch industry with incentives to grow the U.S. launch industry
- CSLA called for “direct cost” pricing, direct costs being costs that...
 - (a) can be associated unambiguously with a commercial launch effort, and
 - (b) the Government would not incur if there were no commercial launch
 - Examples: Labor & related expenses, materials/supplies, facility-related expenses, ODC’s
 - Excluded: Infrastructure overhead, G&A, service pool type assessments
- As with SAA waivers, price adjustments under CSLA authority require the concurrence of the cognizant Program Manager and approval of the Center CFO



COMMERCIAL SPACE COMPETITIVENESS ACT - (CSCA) – 51 USC § 50504 (2000)

Authorizes NASA to allow commercial entities to use its facilities on a reimbursable basis – if used to support space-related effort, and equivalent commercial services are not reasonably available. Provides broad authority.

- **Application:**
 - Space-related agreements with non-Federal entities
- **Features:**
 - Direct cost only may be charged – full cost is allowed
- **Examples:**
 - No agreements under CSCA authority have yet been written by NASA. (Special permission needed.)

Enhanced Use Leasing (EUL)

- All NASA Centers have enhanced use leasing authority
- EUL gives the Administrator authority to lease NASA real property to other Federal or non-federal entities and use the proceeds of the lease agreement to cover the full costs to NASA in connection with the lease.
- Previously, NASA was generally prevented from “making a profit” on the commercial use of its workforce or facilities (and thus, augmenting the appropriation)
- Enhanced Use Lease authority allows Centers to retain revenues previously required to be returned to the U.S. Treasury
 - Amounts received in excess of costs associated with the lease shall be available for maintenance, capital revitalization, and improvements of the real property assets.



KSC Agreements Process - Steps

- Request for Information
- Announcement for Proposal (AFP)
- Abstract to HQ's
- Appraisal (real property)
- Business Case
- Type Agreement
- Negotiation with partner
- Estimated Pricing Report (EPR)
- Final Center review (SAAM E-Router)
- Final HQ review (SAAM E-Router)
- Formal signing
- Agreement transition
- Implementation
- Annual EPR w/updates to applicable CM&O, Facility Service Cost rates

CFO Involved in each step with the exception of Formal Signing



Summary of Reimbursable Agreement Alternatives

<u>AGREEMENT AUTHORITY</u>	<u>CUSTOMER</u>	<u>PRICING</u>	<u>PRICING METHOD</u>
Economy Act	Federal	Full cost	Cost-based Standard-rate based
Space Act	Federal State and local Private (commercial) entities Educational institutions Foreign commercial entities Foreign educational institutions	Full cost – waivers	Cost-based Standard-rate based Market-based
CSLA	Private (commercial) entities State (not local or regional)	Direct cost – excluded indirect	Cost-based Standard-rate based
EUL	Non-Federal	Full cost	Market-based

- *Flexibility exists to utilize the various authorities, depending upon circumstances, scope of the work, and the best interest of the parties*
- *Consult Chief Counsel and the Chief Financial Officer at the outset*



Summary Notes:

- Reimbursable business has grown significantly in the last several years at KSC
- We have become a trailblazer in unique partnership agreements and have preserved critical assets & capability at no cost to NASA
- KSC has approx. 224 active agreements, with 91 Non-Reimbursable SAA's
- There is a concerted effort underway at KSC to leverage our assets in support of commercial spaceflight, as well as to reduce our operating costs and footprint in accordance with Agency directives
- The CFO office plays a major role in guiding these initial agreements through to completion in accordance with Agency and federal policy



Questions ?

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