COL BEIDLEMAN'S HPA WORKSHOP SPEECH – 8 APRIL 2013

- Thank Dave for intro.

- Intro…… Good morning or afternoon, which ever time zone applies, as I understand we have participants beaming in from across the country. I kind of feel like a hosted payload myself today…I'm not really there with you in Colorado, but I'm conveying my message to you via commercial means on VTC….so I meet the definition of a hosted payload according to the AF Hosted Payload Plan, in that I'm an instrument dependent upon the host's subsystems for functionality. While this is definitely more affordable, we'll see how resilient I am as we go on.

- Thank the HPA.

- Thank Ms. Nickloy.

My intent today is to provide you a status update on hosted payloads at SMC.   I'll touch on our efforts to change the paradigm, both internal and external to SMC, followed by a review of our current efforts to foster payload and hosting opportunities, to include an overview of our efforts to develop some standards.

First, the mission of the Development Planning Directorate, SMC/XR, is to deliver affordable and resilient solutions for future military space capabilities. And for a number of reasons, XR believes hosted payloads can be critical tools in delivering these solutions. It's our job in XR to determine whether it makes sense to pursue hosted payloads in various mission area architectures, and if so, to "bake-in" the idea of hosted payloads serving as integral members of the architecture from the beginning, when we develop future concepts and acquisition strategies.

And we've come a long way in changing the paradigm since we stood up the Hosted Payload Office less than two years ago, both internal and external to SMC.

First, internal to SMC, as the majority of you well know, we're in the midst of pursuing an effort to streamline and implement a commercially hosted payload contract at SMC, that could potentially be used by other DoD and non-DoD agencies. I'll elaborate more on this a little later in this discussion.

In December of 2012, the Hosted Payload Office obtained Lt Gen Pawlikowski's approval on the acquisition strategy for the Hosted Payload Solutions (or HoPS) contract. To do this, we needed to step through the same acquisition strategy process that every traditional acquisition program is required to follow. By design, this is a rigorous process that can take weeks to months to accomplish, and it involves coordinating with virtually every staff agency, including Program Integration, Contracting, Financial Management, Legal, Engineering, Safety, Small Business Administration, etc. In addition to all the staff agencies, since our contract could

impact every mission area at SMC, we needed to coordinate with every spacecraft SPO at SMC as well. And nobody had ever heard of, or seen anything quite like the HoPS contract before – we were blazing a new trail.

But as we worked our way through the maze of meetings and discussions to obtain the boss's approval, we rolled up our sleeves and worked elbow to elbow with all of these SMC organizations, socializing the idea of hosting DoD payloads on commercial spacecraft, and educating everyone about the potential benefits of commercial hosting. and For every question and concern that arose during these discussions, there was a pause, and a willingness to listen and learn.

And together, we, as a product center, learned a heck of a lot about the intricacies of commercial hosting, as well as the scope and magnitude of the obstacles and risks we will need to overcome.   Just a couple of years ago, conversations regarding hosted payloads would have faced deep skepticism, considerable resistance, or would have fallen on deaf ears altogether….but today you can count on a healthy debate ensuing.

In fact, through our efforts, and the efforts of the Hosted Payload Alliance, many program offices at SMC are now considering the benefits of commercially hosted payloads and are endeavoring to leverage them, where appropriate.   In fact, the Program Integration Directorate authored a guidebook containing best practices for developing business cases for commercial hosting. Also, Program Integrations's generic acq strategy process includes an early strategy session where SMC can ask the right questions, in a program's infancy, and consider the use of commercially hosted payloads.

And XR's Hosted Payload Office has become the focal point for hosted payloads, not only for the Air Force, but for DoD, National Space, and Civil Space systems too.

In the end, I believe we've successfully cemented the term "hosted payload" in SMC's vernacular. And while hosted payloads are not the right answer for every capability need, SMC now understands and accepts that hosted payloads can be an option.

-- But we took it one step further.

While we made considerable gains towards institutionalizing the commercially hosted payload as a viable means to place capability on orbit, we also instituted a framework at SMC for developing future architectures that considers the utility of hosted payloads from the outset, something I like to refer to as "baking-in" hosted payloads from the beginning, where appropriate. XR is responsible for leading the development of future "to-be" architectures for each space mission area, and XR is also the home of the Hosted Payload Office. So you can trust that if hosted payloads make sense, we'll plug them into the solutions.

and it's already happening. Today, the initial tradespace for nearly every architectural solution in most mission areas contains concepts using hosted payloads in some capacity. The tradespace undergoes rigorous analysis to produce a handful of "best athlete" solutions. These solutions are eventually scrutinized in an Analysis of Alternatives or some other vetting mechanism, like Air Force Space Command's Integrated Planning Process.

The surviving concepts are candidates for "proof-of-concept" demonstrations, like CHIRP, and are included in the Air Force Core Function Master Plan, the MAJCOM's strategic investment plan, and eventually compete for funding in the POM process.

Col Nickle discussed a few of these architectures earlier this morning, including the use of 9-degree Wide-Field-of-View sensors on commercial hosts at GEO for the future Overhead Persistent Infra-Red architecture. We've also provided hosted payload concepts to compete in the ongoing Space-based Environmental Monitoring AoA, and there is potential for hosted solutions for the Protected Tactical System that will eventually flow from the Milsatcom mission area's impending AoA.

Beyond the progress we've made internal to SMC, we've also seen positive movement external to the product center.

For example, last year Air Force Space Command did not have a point of contact for hosted payload issues.   I recall a tasker related to hosted payloads came down the chain from the Office of the Secretary of the Air Force and the tasker bounced around the headquarters building until it landed in the lap of one of the A3 division chiefs, who called me scratching his head wondering what to do about it. Today, however, Maj Jost from the Requirements Integration Division is the MAJCOM belly button for all things "hosted payload," and I believe he's attending the workshop today.

At the office of the Executive Agent For Space, action officers are currently coordinating the draft of the Air Force Hosted Payload Plan in response to a DoD request, which emphasizes the need to examine hosted payloads as a means to reduce the cost of space-based capabilities, increase the technology refresh rate, and increase architectural resilience.

Finally, we met with members of the White House Office of Science and Technology Policy to share our perspectives on hosted payloads and await the release of the next version of the US Space Transportation Policy, currently in coordination.

So that summarizes the gains we've made in the past. Now I'd like to take a few minutes to discuss our ongoing pursuit of payload and hosting opportunities.

On the payload side….of course, I'd be remiss if I didn't toot our horn regarding the success of CHIRP, still alive and kicking on orbit well beyond its anticipated lifetime, and the CHIRP team was thrilled to have their hard work honored by the Aviation Week Program Excellence Award. XR transitioned that technology demonstration effort to the Infra-Red Systems Directorate last year and turned our focus to developing a more robust, operational demonstration of a Wide-Field-of-View IR staring sensor.

XR's dialogue with the infra-red systems directorate is routine, even daily. We just collaborated with them on a 9-Degree Wide Field of View Industry Day on 12 March, and if we get money in FY13, we will issue a 9-Degree WFOV Request For Proposal. As it stands, we continue to await the outcome of sequestration, and we're prepared for a release in early FY14 or sooner if funding becomes available.

We are also active in the Weather mission area and continue to hold close conversations with the Weather Systems Directorate (WM).   As we continue to support efforts to complete the Space-Based Environmental Monitoring AoA, we've begun analyzing potential hosted payload options for the Weather System Follow-on capability. Specifically, one of the more mature concepts the HPO has been pursuing is the Hosted Environmental Assessment of LEo Radiation, or the HEALER sensor. This is a radiation dosimeter payload that could be hosted on future LEO spacecraft to mitigate a Joint Requirements Oversight Council Category A Gap.

This gap in LEO Energetic Charged Particle Characterization already exists and may worsen in the next few years, hindering operators from rapidly distinguishing between environmentally induced anomalies and hostile actions. Using dosimeters as hosted payloads offers the opportunity to measure the ionizing environment and provide the warfighter with critical information to resolve these satellite anomalies. The project has broad support within the scientific community as well as the NRO and DoD, but funding in FY14 is proving a major challenge.

Regarding hosting opportunities, as I alluded to earlier, XR Hosted Payload Office is presently developing a hosting contract, called Hosted Payload Solutions (HoPS), to fly government payloads on commercial satellites. As many of you are aware, HPO released a draft work statement with the Sources Sought Announcement in September last year, and conducted meetings with industry with favorable feedback.

Also, the SMC Commander approved the acquisition strategy in December 2012, and we conducted an Industry Day on 19 February, along with multiple one-on-one meetings with potential vendors. XR has a Bidder's Library where documents reside for Industry's review, and we've been working towards a very aggressive schedule.

My office expects to release a Request for Proposal for a multiple award Indefinite-Delivery-Indefinite-Quantity contract in May, next month. The target award for this effort is December 2013. In order to maximize hosting opportunities, this contract synchronizes the procurement process with commercial satellite procurement lead times. This will allow industry the chance to develop win-win business scenarios that mutually benefit themselves and the government.

In addition, the HoPS contract provides the flexibility to support early payload design efforts and commit to flight processing later, when the payload's schedule for commercial satellite processing is assured. The HoPS contract is designed to allow disparate payload and commercial satellite schedules to be synchronized, enhancing hosted payload flight opportunities and reducing schedule risk for both the government and the commercial host.

The Hosted Payload Office has been very busy developing the details associated with how we will conduct hosted payload missions using the HoPS contract. We're currently vetting these details and are incorporating them into the HoPS RFP documentation based on the following guiding principles:

a. Treat the commercial host as a mission partner by respecting their commercial mission needs and recognizing that we share a common set of on-orbit resources.

b. Use commercial practices for mission assurance, program insight, and timely decision making to preserve commercial program schedules.

c. Minimize perturbations to the commercial operator by segregating the payload mission from the commercial mission.

d. "Do No Harm" to the commercial mission by requiring payloads to comply with the host's spacecraft compatibility requirements.

And lastly -- Standardize a core set of Information Assurance (IA) hosted payload interfaces, while preserving the flexibility for the host to implement mission-specific solutions for a wide variety of payloads and spacecraft.

These principles are captured in the Hosted Payload Standard Interface Specification (HPSIS). We talk a lot about the need to develop standards when we get together at these workshops, but this time we've made considerable progress towards actually developing them. I'll list a few of the items contained in the HPSIS today and I invite you to review the draft at your convenience. We've been working with industry to mature our HPSIS document over the past few months, and we appreciate the feedback we've received so far. We expect to post an updated version of the document to the Bidder's Library this week as part of the HoPS RFP.

The HPSIS establishes the following standards to govern HoPS missions:

a. Descriptions of several hosted payload mission scenarios that can be used for both unclassified and classified payloads. These are data routing scenarios that cover how to get the data to and from the payload. These options are tailorable to fit specific needs.

b. Data communications architecture options that conform to DoD Information Assurance (IA) requirements for payload command and control, and delivery of mission data to the payload operations control center.

c. Description of the functions and interfaces associated with the Hosted Payload Interface Unit (HPIU) to provide Red-Black separation between the payload and unclassified spacecraft.

And lastly, the HPSIS will contain a template for hosted-payload Interface Control Documents (ICD) that incorporates the lessons learned from our CHIRP Mission experience. This template allows us to carry forward these lessons to benefit future hosted payload missions.

It's our intent that the HPSIS document provides a complete picture of how we expect hosted payload missions to be performed efficiently and successfully.

Finally, we've been busy defining the requirements for the Hosted Payload Interface Unit (HPIU) and are exploring several options for its procurement. At this time, it's too early to discuss what our acquisition plan will be, but we are considering the use of existing Government equipment, as well as a full and open competition with industry….but for the moment, we're still weighing our options.

And that brings me to the end of my update on commercially hosted payload efforts at SMC. And while we've accomplished much in the past year, there are plenty of challenges lying ahead, as Lt Gen Hyten noted earlier today.

We've got more work to do from an operational perspective. Space mission CONOPS and program transition timelines are key elements of any hosting arrangement. We face numerous challenges integrating hosted payloads with operational mission architectures, ensuring the required capabilities are delivered. And we need to think about how ground infrastructures will accommodate the hosted payload data stream. Recall CHIRP was a stand-alone technology demonstration whose data was not operationally integrated. Beyond the tech demo, the next step is an ops demo, followed by a hosted operational payload.

Contractually, the government must balance requirements and insight/oversight with commercial practices. We still face potential challenges with receiving foreign launch exemptions and with maximizing opportunities while maintaining ITAR compliance.

Legally, potential issues arise with orbital slot locations and movement, changes of ownership, and challenges with anomalies. These issues must be addressed during contract negotiations. Perhaps many of these issues will receive attention during this afternoon's workshop. Overall, each of these individual elements must be considered as early as possible in the acquisition cycle to take full advantage of any hosting opportunities.

Perhaps the most daunting of all challenges, certainly in the short term, is the fiscal environment. To its credit, the Hosted Payload Office navigated around "fiscal cliffs" every day this past year, and posted considerable progress towards its goals and commitments to SMC. The near future isn't any rosier regarding funding for anyone in the US government, but commercially hosted payloads continue to be of great interest to the Air Force and the Department of Defense, and SMC will continue to advocate for hosted payloads as a viable solution for affordable and resilient space capabilities, where it makes sense to do so.   And awarding the HoPS IDIQ contract is one of XR's key commitments to Lt Gen Pawlikowski for 2013.

Regardless of the challenges ahead, I'm confident that government and industry can continue to partner together and work through these issues like we've done in the past. The simple fact that I'm talking to you today, is proof positive that we can team up and overcome unforeseen challenges.   And SMC is committed to strengthening that partnership.

Thanks again for this opportunity to have a conversation with our industry partners; I look forward to your questions.