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Briefing is unclassified

MDA SBIR Transition Strategy

Briefing to NDIA Rocky Mountain Chapter, Small Business Committee

Workshop on Improving Small Business Contracting Competitiveness at AFSPC

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Distribution Statement C

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Briefing Purpose

- **Share MDA's Lessons Learned on Small Business**
 - **Engagement**
 - **Involvement**
 - **Utilization**



Briefing Outline



- **Who Is this Guy?**
- **Transitions**
- **Issues**
- **Summary/Conclusions**



Speaker Credentials



- **Aeronautical & Aerospace Engineer with >30 years in DoD Technology Development**
 - Jack-of-all-trades
- **Involved in SBIR programs since the late 80s**
- **Space Based Laser Program SBIR technical lead 01-03**
- **STSS Program SBIR lead since 03**
- **MDA SBIR Space Technology Research Area Lead since inception (2005)**
- **STSS Technology lead since 03**





MDA SBIR/STTR Program Strategy



- **Address BMD System Gaps or Foster New BMD System Capabilities**
- **Solve Technical Issues/Problems/Limiters of BMDS System**
 - Enable New System Concepts and/or Significantly Improve Existing Concept Performance/Cost/Life/ Producibility
- **Provide Subsystem or Component Suppliers to Our System Prime and Payload Contractors**
 - Tiers 2 – N
- **Fewer but Larger Phase IIs**
 - Phase II Enhancement/Transition program

Transition Is Critical!



Small Business Product Transition Paths

- **Subcontract from Prime/Payload Contractor to Small Business**
- **Large Business Acquires Small Business**
- **Phase III Contract from Government to Small Business**

Discussion of each follows.....



Subcontract



- **Most common transition path**
- **Advantages**
 - **Direct, strong connection to application**
 - **Aligns with current government management philosophy: Prime retains performance control/responsibility**
 - **High probability of successful transition**
 - **Supports contract small business goal**
 - **Low admin burden to government**
 - **Does count as an SBIR Transition Success**
- **Disadvantages**
 - **Potential government data rights issues**
 - **Higher contract cost**
 - **Unclear if/how government gets credit for use of Small Business or SBIR success**



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Acquisition



- **Not uncommon**
- **Advantages**
 - **Direct, strong connection to application**
 - **Aligns with current government management philosophy: Prime retains performance control/responsibility**
 - **Highest probability of successful transition**
 - **Least admin burden to government**
 - **Does count as an SBIR Transition Success**
- **Disadvantages**
 - **Potential government data rights issues**
 - **Higher contract cost**
 - **Does not support contract small business goal**
 - **Government gets no credit for use of Small Business**



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Phase III



- **Least common**
 - Most likely when product is large volume, commodity-type
- **Advantages**
 - Government data rights clearer
 - Potentially lower contract cost
 - Government gets credit for use of Small Business
 - Does count as an SBIR Transition Success
- **Disadvantages**
 - Increases risk of transition failure
 - Increased government attention required to keep strong connection to application
 - Potentially muddies Prime performance control/responsibility
 - Best fits arsenal model (which is not used by USAF)
 - Greatest admin burden to government
 - Does not support contract small business goal



Transition Lessons Learned

- **First and foremost, to maximize the probability of successful transition, Government has to stress its importance throughout the SBIR program!**
 - **Aerospace contractor endorsements and expressions of interest should be a factor in assessing commercialization potential.....and small businesses need to be told this up front!**
- **Government can increase aerospace industry interest in SBIR by**
 - **Asking for, and listening to, their input on technologies they would like to see developed....and what they need to accept them**
 - **Helping Small Businesses get a chance to tell their story to the aerospace firms**
 - **Asking for/Requiring reports on SBIR Technology Usage**



Phase III Opportunity Concepts



- **USAF & MDA have made extensive use of small businesses to develop modeling and simulation tools**
 - **Improvements could be done as Phase III efforts following Phase II Transition/Commercialization efforts**
 - **Use licenses for contractors could be Phase III purchases?**
 - **Where an SBIR technology is of interest, fund tech development as a Phase III, not through the system prime**
 - **Government/Prime team develop requirements/goals (including interfaces)**
 - **Prime can be a subcontractor to Small Business or be included by government in reviews (with agreement of Small Business), but government manages contract**
 - **Prime then executes subcontract to Small Business for actual system components**
- **This works particularly well early in a program while firms are still competing to be the Prime!**



Transition Issues



- **The Valley of Death**
 - For many technologies, SBIR alone can't get the technology far enough to enable transition (TRL 6 and/or P&Q)
- **Technology Development requires a long view and maintenance of objective**
 - Hard to do when funding is block by block (or bird by bird)
 - Need to think in terms of baselines!
 - Requirements creep/changes have same effect they do on programs (Speed vs Velocity!)
- **Use of SBIR may conflict with Prime Make/Buy Decision and/or corporate culture**
- **Increased government attention required to fully exploit**
 - If government doesn't monitor/require reporting of SBIR use, a message is sent to our contractors



Summary/Conclusions



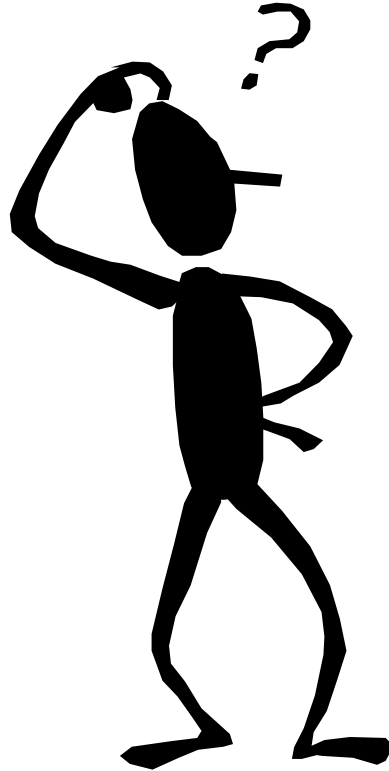
- **SBIR is like a sewer.....you get out what you put in!**
 - To get more out of the program, greater management attention will be required



- Recognize and reward the behavior you want!
- **The true measure of the use of SBIR technology is not just Phase IIIs!**
 - We stressed this in both USAF and MDA responses to GAO's recent (on-going still?) audit of Space SBIRs
 - If only Phase IIIs are being "counted", USAF/DoD should seek to get this changed
- **Thanks for the opportunity to work with you!**



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Backups



Missile Defense Agency Mission



Develop and progressively field a joint, integrated and multilayered Ballistic Missile Defense System (BMDS):

- **To defend the United States, our deployed forces, and our friends and allies**
- **Against ballistic missiles of all ranges**
- **By engaging them in all phases of flight**



Ballistic Missile Defense System (BMDS)



Sensors



Launch Detection



Tracking And Surveillance System



Sea-Based Radars



Forward-Based Radar With Adjunct Sensor



Midcourse X-Band Radar



Early Warning Radar



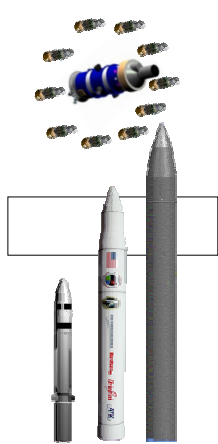
Airborne Laser



Kinetic Energy Booster



Aegis Ballistic Missile Defense / Standard Missile-3



Multiple Kill Vehicle



Ground-Based Midcourse Defense



Terminal High Altitude Area Defense



Sea-Based Terminal



Patriot Advanced Capability-3

Command, Control, Battle Management & Communications



NMCC USSTRATCOM USNORTHCOM USPACOM EUCOM CENTCOM



MDA Space Element



- **Precision Tracking Satellite System (PTSS)**
 - Near Term: Prototype(s) managed by MDA/DV & built by APL-led National Lab (i.e., FFRDC) consortium
 - Mid Term: Industry production of satellites based on prototype design
- **Farther Term Satellite – TBD (?)**

- **Ballistic Missile Defense System also relies on other space systems not included in MDA Space Element**
 - DSP, SBIRS High, etc.
 - GPS
 - Milsatcom