

Where Our National Security Begins...

# **NGA** Advisory Working Group

(NAWG)



### NAWG initial work product brief to NGA

9 March 2016



# Charter

USGIF establishes its NGA Advisory Working Group (NAWG) to bring together professionals from the government and industry, to <u>foster procurement and acquisition culture</u> through bilateral discussions that advise, recommend and <u>promote actionable ideas for improving</u> the contracting process and *consequences*.

### Why a NAWG?

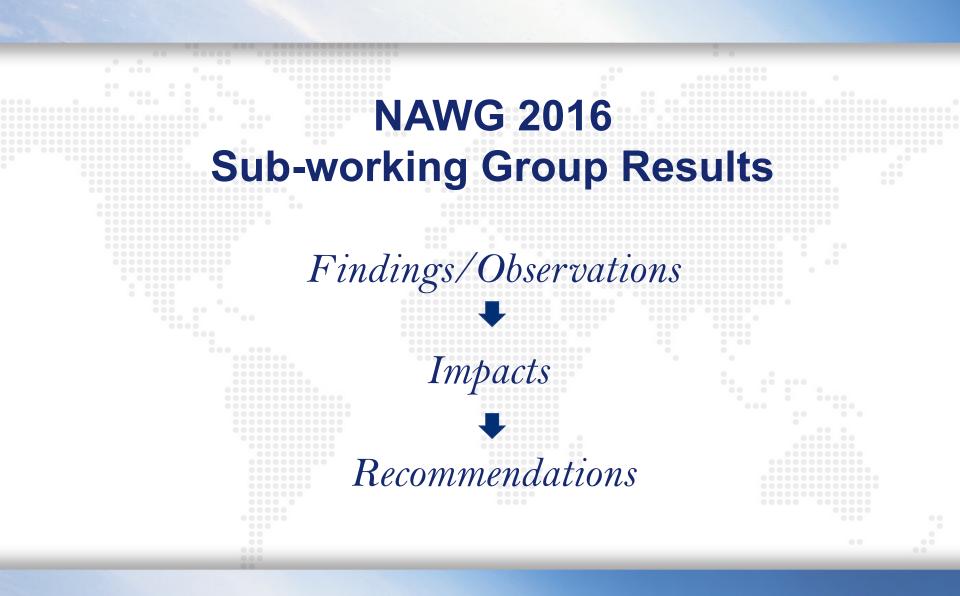
- Industry approaching NGA one-at-a-time w/o common voice is unproductive
- NGA cannot act unilaterally and expect a positive outcome
- Industry cannot wait for NGA guidance and expect a positive outcome
- Breadth, depth and number of issues: too many to address at one time
- Common understanding among industry more cooperation and less controversy

# **Topic Development Process**



### **The "Big Picture" Recommendations**

- Provide proactive feedback to Industry after engagements
- Fully utilize the unclassified ARC
- Work for clarity and specificity in requirements
- Determine how you will assess requirement satisfaction against any remaining vague-ish requirements
- Address the challenges facing "emerging" mid-size companies
- Implement holistic training for the acquisition workforce break through the culture of 'do it the same way'
- More fully utilize existing open-ended vehicles (e.g., GSA schedules) to promote fast(er) procurement cycles, with short deliveries and with (more) opportunities for innovation





### **Innovation Through the Contracting System**

Sub-working Group 1 (AIPP Innovation Focus Area #2)

Faster Acquisition & Integration of Emerging Technologies		Performance Based Contracting & Alignment of Contract Types	
<ul> <li>Mike Manning (Co-chair)</li> <li>Mary Irvin Digi</li> <li>Deb Davis</li> <li>Colin Thomas</li> <li>Chuck Izzo</li> </ul>	IAI tal Globe GDIT CA SAS	<ul> <li>Mark Hogsett (Co-chair)</li> <li>Mike Manning</li> <li>Howard Weitzner</li> <li>Kirk Smedley</li> <li>Colin Thomas</li> <li>Deb Davis</li> </ul>	GDMS IAI Accenture GDMS CA GDIT
Barriers to Entry		Culture In the Acquisition Workforce	

How to Get **Innovation** through the Contracting System (Contract types, evaluation factors, LPTA vs best and brightest ideas, risk, IP issues, shared risk model, etc.)

 Objective: Identify opportunities to optimize acquisitions of innovative solutions

### Focus Areas

- Performance /Outcome Contracting & Alignment of Contract Types
- Culture In the Acquisition Workforce
- Faster Acquisition & Integration of Emerging Technologies
- Barriers to Entry

• Presenters: Howard Weitzner, Mike Manning



# Performance Based Contracting & Alignment of Contract Types

#### Observations & Findings

- Acquisitions based on cost, schedule and performance align well with continuation of the status quo, but do not encourage new solutions
- The acquisitions workforce has more experience with cost/schedule contracts than with performance based contracts
- Use of performance metrics provide focus for both Government and Industry by limiting scope expansion
- Impacts
  - Rapid prototyping allows the Government to assess solutions before significant long-term commitment
  - Performance based contracts with clear metrics and milestones reinforce contractor accountability
  - Innovative contracting approaches reduce transaction costs for both government and commercial entities, and have the potential to accelerate procurements
- Recommendations
  - Define performance based contracts as the default requiring justification to use level of effort contracts
  - Use Agile contracting via FIRE (Fast Inexpensive Restrained Elegant)



# Culture

### Empowering the acquisition workforce

- Observations & Findings
  - Senior acquisition personnel are excellent, but that expertise is inconsistent across the organization at-large with limited acquisition expertise outside OCS
  - Government's strength is mission continuity, using procurements to provide access to industry personnel who know current operations
  - Roughly 80% of the contracts employ only 20% of the FAR
  - New technical capabilities require innovative acquisition methods that are not familiar to the current acquisition workforce
- Impacts
  - Expertise is exiting through retirement without robust knowledge transfer programs
  - While the FAR allows everything that is not excluded, the acquisition workforce remains "boxed" by a more narrow set of generally accepted practices
- Recommendations
  - Other agencies in the IC are exploring tailored training beyond traditional DoD acquisition training to include joint industry/Government training
  - Identify the source selection panel early, before requirements are defined, to empower all parties across the Agency



# Creating a culture of acquisition

- Observations & Findings
  - The Government defines value based on cost rather than program delivery metrics
  - Mission and program personnel do not view themselves as part of the acquisition workforce
  - The current acquisition culture is based on risk avoidance to include avoiding protests
  - Both Government and industry have many false assumptions, or lack of appreciation, of the complexity of the other's acquisition activities
- Impacts
  - Culture of status quo undermines awarding innovative solutions and/or use of nontraditional acquisition strategies
  - Goals regarding contract diversity (contract type, small business, best value) often drive decisions rather than a focus on what's right for a given program
- Recommendations
  - Rewards and incentives for creative practices will reinforce cultural change
  - Require source selection participation as a requirement for career advancement
  - Collaborate with peer IC agencies to leverage what others have piloted for innovative acquisitions

### Faster Acquisition & Integration of Emerging Technology

- **Observations & Findings** 
  - Long Lead times from Mission-identified Need to Acquisition Lifecycle (RFI/DRFP/RFP/ Award) and Delivery
  - Long Lead times from identifying Emerging Technology to technical integration and user adoption
  - Acquisition Lifecycle communicates requirements instead of desired outcomes to solution providers
  - Cleared personnel and facilities are needed to contractually support unclassified efforts
  - Emerging technology pilots need to go through a full contracting/accreditation efforts even for user evaluation with mission data
- Impacts
  - Sustained Business investments to capture or follow long lead time acquisition (shaping, capture, Staffing preparation, etc)
  - Sustained Business investment to "sell" emerging technology that could be obsolete by the time it reaches desktop



### Faster Acquisition & Integration of Emergin Technolog

#### Recommendation

- Establish multi-award acquisition approach that leverages precompeted contract vehicles (e.g., GSA Schedule) with traditional small, medium, and large vendors as Agile partners with an anticipated revenue stream to mitigate risk of protest
  - Transform "few" major acquisition contracts into many minor agile application service providers (ASP) and apply SAFe and ITIL best practices
  - Provide outcomes/objectives, not requirements
  - Reward technology adoption from others, accelerated delivery or service retirement with contractual incentives or award fee
  - Provide unclassified representative GEOINT data and services within DevOps to enable industry and academia to develop applications and algorithms for operational evaluation and cloud migration
  - Enable uncleared personnel to support the contracts for unclassified work.



# **Barriers to Entry**

#### Observations & Findings

- Challenging to access Key Leaders
- Leadership and mid-management participates in industry events, with limited access to staff
- Unclassified GEOINT problem sets and representative data are on classified domains
- Unclassified bidders library content generally on classified domains
- Limited mechanisms and repeatable procedures to deliver innovation
- Impacts
  - Business cost to protect intellectual property and unclassified content on classified domains
  - Business model for the first transaction with NGA generally requires existing clearances, subcontractor role on new acquisition vehicle and personnel with NGA experience
- Recommendations
  - Expand and facilitate industry access to staff
  - Provide unclassified version of documents when possible
  - Include sanitized data services within unclassified cloud based DevOps environment
  - Facilitate prime contractual relationships with innovative small and mid size companies
  - Flow access, innovation mechanisms and procedures through to subcontractors



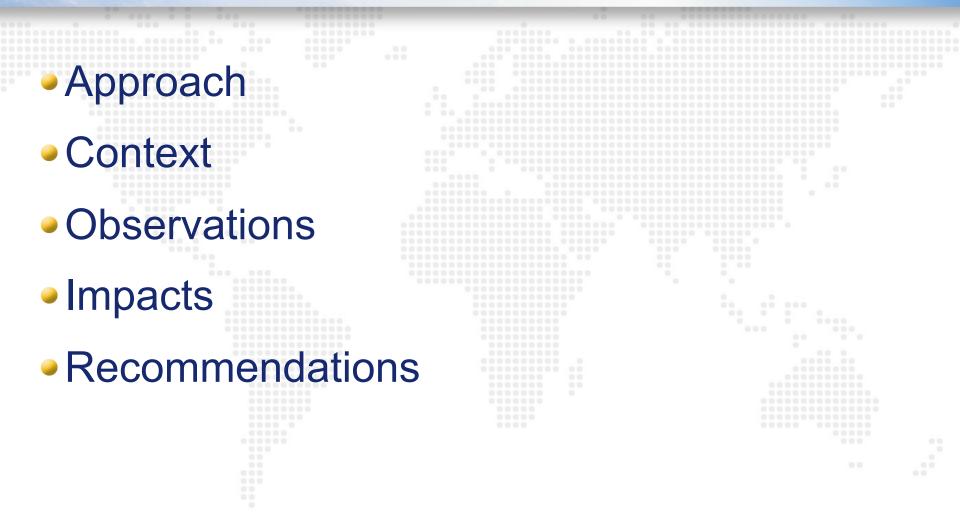
# **Clarity and Quality**

Sub-working Group 2 (AIPP Innovation Focus Area #1)

Don Bergeson (co-chair)	CACI
Nancy McGhee	Geographic Services
Lee Bader	Leidos
Tom Lash	Leidos
Joe Shuttleworth	Abacus
Manh Pham	Accenture
Caroline Land	SAS
Roger Mitchell	MDA
Marc Kriz	Cloudera
Phil Welch	Stellar Solutions
Fred Turman	Peraton (formerly Harris IT Services)

**Clarity, Quality and Efficiency** in solicitation, proposal and evaluation process (fairness, equity, LPTA vs. Best Value, ID/IQ, teammate addition lockdown, incumbency, habits are driving bait and switch in pricing, FFP but BOEs/hours conflict, etc.)

# **Clarity & Quality Sub-committee**





### Approach

- Discuss requirements quality standards and practices
- Perspective-based review of a small sample of recent NGA requirements documents, i.e., PWS
- Record observations about the samples
- Ascribe impact(s) to the observations
- Offer recommendations to improve contract PWS and glean more of the benefits of good requirements:
  - Level the competitive landscape
  - Unleash competitive forces that drive innovation
  - Deliver tangible cost/price benefits to NGA's mission
  - Reduce NGA' contract administration burden



### **Context: Requirements Quality**

- A fresh look at requirements clarity and quality

   Why focus on contract requirements documents?
   Characteristics of strong requirements
- How the quality of requirements contributes to realizing NGA's desired product/service outcomes
  - Good requirements constrain the language that stakeholders share
  - Contract relationships work best when all parties base their behavior on the same information



### **Context: Shared Principles**

 Requirements engineering practice calls for establishment of rules for specifying requirements

- Acceptance criteria
- Quality criteria Key to the kingdom
- Documenting traceability information
- Format, levels of detail and formalization
- Systems Engineering principles and processes apply to systems in the utilization stage – Operation and Maintenance (O&M) processes
- O&M service contracts consume 60-80% of system resources over the lifecycle – Defense Acquisition University



### **Context: Why Focus on Requirements Documents?**

- Depicts desired outcomes focuses industry on how to achieve desired outcomes instead of determining what they are
- Common reference shared among Government and industry stakeholders
- Basis of communication common vocabulary and dictionary promotes common understanding
- Supports stakeholder orientation and training
- Preserves expert knowledge no one can retain everything
- Persistence specifications live forever!! They are the memory of what was decided



### **Characteristics of Good Requirements**

- Necessary each requirement generates extra effort in the form of processing, maintenance and verification – include only those necessary
- Implementation Independent specify "what" is to be done, not "how."
- Unambiguous each requirement has a single valid interpretation
- Singular the requirement statement should be only one requirement.
- Verifiable NGA can check/confirm that the achieved outcome fulfills the documented requirement
- Comprehensible "clear and concise" clear, exact, and in sufficient detail to meet all reasonable interpretations
- Complete no missing requirements, all identified requirements are documented
- **Consistent** statements in the PWS do not contradict one another
- Correct as confirmed by key stakeholders
- Traceable source, evolution, impact, and use are evident

#### Adapted from INCOSE Systems Engineering Handbook 4e



### **How we Made Our Observations**

- We use recent NGA acquisitions to help illustrate how requirements can be stronger
  - ITEMS TS PWS
  - GDS FGCM Region A SOW
- Basis for selecting example requirements:
  - Randomly (well, almost) selected requirements statements from the above documents
  - Randomly selected objective statements from the above documents
- The sample is not sufficient to represent all NGA SOW and PWS



### **Observation #1 – Unambiguous**

### The 1st "shall statement" in ITEMS TS PWS:

Section 2.2 [Scope] 2<sup>nd</sup> para, 2<sup>nd</sup> sentence. "In order to effectively and efficiently deliver the services, the TS Provider shall recommend and coordinate Transport Services planning and architecture activities through TS CSA and NGA processes in cooperation with other NGA service providers."

- "In order to" expressions of purpose are often indicated by the presence of phrases such as "in order to," "so that," "thus allowing." This information should be included in the requirement's rationale.
- "effectively and efficiently deliver the services" adverbs lead to ambiguous, unverifiable requirements that do not reflect NGA's expectations. Words that end in "-ly" should be avoided.
- "... the TS Provider shall recommend and coordinate" the presence of combinators (e.g., "and," "or," "then," "unless," "but," "/,") usually indicates that multiple requirements should be written.

Per INCOSE, "combinators are words that join clauses together, such as 'and', 'or', 'then', 'unless'. Their presence in a requirement usually indicates that multiple requirements should be written."



### **Observation #2 – Unambiguous**

### Para containing the 1<sup>st</sup> "shall statement" in GDS FGCM Region A SOW:

Section 2.0 [Scope] 2<sup>nd</sup> para. "The FGCM contract will provide *the highest quality data, products, information and services* through the use of a Quality Management System. To meet our transformational goals, *NGA expects a culture of innovation*. The contractor shall adhere to the GEOINT Structure Implementation Profile (GSIP) suite of standards *to enable seamless, trusted sharing of geospatial data across the NSG*, using net-centric operations."

- 1<sup>st</sup> sentence, "...the highest quality data, products, information and services..." some words signal unmeasured quantification, such "maximum," "highest," and "userfriendly." These words are ambiguous and should be replaced with specific quantities that can be measured.
- 2<sup>nd</sup> sentence, "...NGA expects a culture of innovation." Does NGA have a particular definition of this term in mind? How will culture be measured?
- 3. 3<sup>rd</sup> sentence, "...to enable seamless, trusted sharing of geospatial data across the NSG..." expressions of purpose should be included in the requirement's rationale.



### **Observation #3 – Trace Forward**

### The 3<sup>rd</sup> goal or objective in in ITEMS TS PWS:

Section 2.1 [Objectives] "This PWS focuses on NGA's need to acquire Transport Services in a manner that provides NGA users and stakeholders with increased agility, security, and reliability by:

- Reducing overhead costs ...
- Consolidating and standardizing ...
- Facilitating the transition to the IC ITE

The PWS contains no requirements decomposed from (or referenced to) the objective to provide NGA users and stakeholders with increased agility, security, and reliability by facilitating the transition to IC ITE.



### **Observations, Findings and Impacts**

### **Observations and Findings:**

- There is significant anecdotal evidence that NGA requirements documents (i.e., PWS and SOW) do not consistently display the "characteristics and attributes of good requirements."\*
  - Individual requirements are less than unambiguous
  - Individual requirements do not trace to objectives and vice versa

### Impacts:

- Industry expends resources and time determining what NGA really needs these are better spent finding innovative solutions that create value
- Introduces cost, schedule and mission risk because disparate understandings of NGA's desired outcomes aren't reconciled until after contract award
- Managing ambiguous contracts tends to be more labor-intensive because they
  routinely require review and analysis to resolve disputes about scope and whether
  additional time or resources will be necessary to achieve it

#### <sup>\*</sup><sub>26</sub> INCOSE Systems Engineering Handbook, page 60



### Recommendations

- Establish rules and guidelines for specifying requirements focus on requirements quality criteria
- 2. Check requirements before release base decisions to release requirements on defined acceptance criteria
- 3. Try these requirements on yourself **conduct a mock proposal** exercise against draft proposal documents
- Adopt the other perspective: invest in capture/proposal training similar to what Industry uses
- 5. Drive traceability establish an internal **process to systematically decompose goals** down to shall statements, metrics and targets
- 6. Introduce other **techniques**, e.g., Objective Trees into NGA PWS
- 7. Verify requirements by checking whether: outputs (artifacts); inputs; and execution of activities adhere to process guidelines

More detail provided for each recommendation in backup slides



### Sub-working Group 3 (AIPP Innovation Focus Area #1)

- Bob Gajda (Co-chair)
- Rob Zitz (Co-chair)
- Randy Brown
- Nate Copeland
- Louis Hackerman
- Mike Janeway
- Alan Kittson
- John Macier
- Peter Makowsky
- Patty Mims
- Donnie Scott

**Ball Aerospace** Leidos ICES Intec LLC Cray APG Tech Astrium-Geo Leidos CACI **ESRI** HPE

Accuracy and timely communication, transparency, access to and understanding of opportunities, "what you say and what you do," etc.

# **High Level Topics Identified**

- Improving overall communications between NGA and Industry
  - More use of Unclassified ARC
  - Provide feedback and action items after Industry meetings
  - Establish recurring engagement processes (not singular events)
  - Find out from Industry "What We Heard" (versus what NGA thought it said)
- Understanding processes and status
  - RFIs Where do they lead/ How are Industry comments processed
  - The end-to-end acquisition process Where is NGA in the RFP process
  - Provide alerts on significant and substantive changes to a procurement
- Enhancing RFP analysis and proposal results
  - Provide documents in MSWord (not only "the official" pdf)
  - Provide MS Office applications for forms and templates



# **Unclassified ARC**

- Observations and Findings
  - The Unclassified ARC [U-ARC] is the better mechanism to reach the most potential Industry Partners
    - Classified ARC clearance access restrictions limit Industry participation
    - Greater flexibility for handling document copying, emailing and storage challenges
  - The Classified ARC [C-ARC] often contains documentation which is only unclassified or FOUO
  - The U-ARC entry often merely references a C-ARC entry
  - A classified document is often not paragraph marked limiting ability to broadly share unclassified sections
  - Processing unclassified documents on classified systems requires extra and unnecessary steps
  - Small (and emerging mid-sized) businesses rarely have a SCIF
    - Must rely on other Industry members who may be competing not partnering
    - Must go to the ARC where only note-taking is permitted ....no printing
- Impacts
  - Resources wasted on processing Unclassified documents as Classified increased overhead costs
  - Limitations on participations of companies without SCIFs (small businesses especially)
  - Potential for security violations due to processing of unclassified documents on C-ARC
- Recommendations
  - Commit to fullest use of the U-ARC
  - Use C-ARC <u>only</u> for those documents truly classified
  - Follow appropriate classification guidelines by paragraph marking documents



# **Feedback after Meetings**

#### Observations and Findings

- NGA has increased the number and type of government-Industry engagements. More one-on-one; More many-on-many; More organizational entities reaching out to Industry
- However, little-to-no feedback from the meetings occurs
  - No "minutes"
  - No status of actions taken by the government
  - No status of (or 'fact of') internal inquiries stimulated by the meetings
  - No point-of-contact identified for follow up and feedback
- No way for Industry to determine if
  - The meeting was of value to NGA and Industry
  - The meeting had any impact and was worth the time invested
  - The conversation points were understood, adopted or rejected
- Impacts
  - Waning participation by Industry Partners in meetings without consequence
  - Increased negative chatter by Industry Partners in NGA's processes
- Recommendations
  - Commit to feedback
  - Establish rigorous and reliable processes to provide feedback to participants
- Image: Stablish mechanism for producing feedback documentation across broadest community (ebgs@ARC)

### **Processes not Events**

- Observations and Findings
  - NGA has increased the number and type of government-Industry engagements.
  - Too often the meetings are more of a one-of-a-kind event rather than a series of continuing processes
    - There is no constant 'agenda' for similar engagement sessions which inhibits broader engagement
    - from an increasing population
    - There is little-to-no follow up or feedback from which could be leveraged for subsequent meetings
  - When an engagement is 'a do once only event' attendance does not fully represent the Industry
    - Company size
    - Area of interest across the end-to-end continuum
    - Company type (i.e., commercial; non-profit; academia)
- Impacts

32

- Inefficiently applied NGA resources to plan, and execute these "events"
  - Little/No opportunity to 're-use' previous efforts
- Uneven information flow from NGA to Industry Partners
- Confused participation by Industry Partners in meetings without clear intent and purpose
- Recommendations
  - Define set(s) of industry engagement forums which meet Agency objective include Industry in planning
    - Purpose/Objectives Frequency Invitees
  - Publicize schedule(s) to ensure Industry Partner planning



Outcomes

# What we Heard

#### Observations and Findings

- NGA holds Industry Days for procurement(s) where the government has specific purpose/information it is trying to send to its Industry Partners
- Industry Days are intended to provide initial procurement information to guide Industry in making informed pursue/no-pursue; prime/subcontract decisions
- Absent sufficient and transparent information from the government, Industry "creates its own reality" based on "what we 'thought' we heard"
- Questions from participants only serendipitously address the key information elements the government intended to promote
- When the government asks Industry to respond to specific questions about what was intended to be conveyed, Industry better understands intent and NGA gains focused perspectives
- Impacts
  - Industry begins developing solutions based on erroneous information
  - Solutions do not meet NGA expectations
- Recommendations
  - Define set(s) of industry engagement forums which meet Agency objective include Industry in planning
    - Purpose/Objectives
       Frequency
       Invitees
       Outcomes
  - Devise Industry feedback form/ questionnaire to solicit comments on how successfully objectives were met
  - Publish feedback



# **RFI Processes**

#### Observations and Findings

- NGA uses RFIs to solicit a broad Industry perspective on a possible future acquisition potential scope; identification of significant challenges; suggestions for contract type/ incentives; consideration of small business set-asides; etc
- An RFI is a component of "market research
- Industry is generally unaware of how the RFI process informs and impacts the eventual procurement
- There is no point of contact for Industry to follow up
- There is no feedback it is how Industry learns:
  - Were the comments understood?
  - Were the comments acted upon? (why or why not)

#### Impacts

- Waning participation by Industry Partners in offering ideas and concepts without any apparent consequence
- Increased negative chatter by Industry Partners in NGA's processes
- Recommendations
  - Commit to feedback
  - Identify NGA points of contact for Industry to follow-up
  - Establish mechanism for producing feedback documentation across broadest community (e.g., the U-ARC)



# The End-End Acquisition Process

#### **Observations** NGA follows a deliberative process in preparing for and executing a procurement activity. Specific steps may be followed during the process. These steps may include: Develop needs/ requirements/ outcomes/ purpose/ etc Develop an acquisition strategy Solicit industry ideas and capabilities profiles through an RFI Update the acquisition strategy Hold an industry day Release a draft RFP Solicit and consider Q&A from industry Publish industry data information and Q&A response **Finalize RFP** Release RFP Respond to (inevitable) questions still remaining in the RFP Sequester source selection panel(s) Make award decision Announce decision Confused understanding how an alternate path (i.e., the GSM) intersects with (or bypasses) the model

- The status of a procurement activity could be provided to Industry so as to better understand how to
  execute pursuit plans and manage resources
- The status of a procurement activity could be provided to Industry so as to understand when conversation between the government and Industry remains open or has become restricted

#### Impacts

- Fits and starts by Industry as it anticipates/ guesses/ misunderstands acquisition status for a procurement
- Inconsistent "cone of silence" within a procurement with Agency-Industry information sharing
- An uneven playing field
- Recommendations
  - Commit to information sharing on status
  - Define and document (and share with Industry) the "standard model" for NGA procurements
  - Develop a process to determine status within the "model" and how updates will be shared with industri

# Alert on Significant Changes to an Acquisition

- Observations and Findings
  - Industry has observed that a number of key opportunities have substantially changed direction well into the RFP process. e.g., EMERALD, ACES
  - These changes cost industry both in time, energy, and MONEY.
  - Companies budget specific dollar amounts to pursue opportunities. Last minute changes, particularly those of considerable magnitude, can significantly impact a pursuit funding.
  - Teaming arrangements are made early to ensure a competitive team. A change in scope can dramatically change the make-up of a team and determine its competitive edge.
  - A company which may have been postured to prime, may become poorly positioned to compete.
- Impacts
  - An <u>INCREDIBLE</u> amount of wasted Industry resources
    - Capture plans created, executed, abandoned
    - Teams formed which offer the strongest offering (e.g., all gaps covered) are instantly disbanded
  - General confusion within Industry Partner community
- Recommendations
  - Commit to feedback
  - When acquisition strategy changes (see end-to-end acquisition process slide), produce broad notifications to Industry (e.g., through the U-ARC)



Re-Set Acquisition status

# **Utilize MSWord**

#### Observations and Findings

- NGA traditionally utilizes pdf files for documents in procurement activities
- Industry standard documentation is through MSWord
- Industry applies many, different analytic [processes to fully explore every aspect of RFP documents]
- NGA requires proposal delivery via MSWord
- The use of pdf files (versus MSWord) limits Industry's ability to parse, shred and analyze procurement documents
- Industry applies tools against pdf files to support analysis, but with limited successes due to the pdf format
- NGA has, occasionally, utilized searchable pdf. But these still do not support full analytic possibilities
- Industry would accept the 'risk' of using MSWord versus "official" pdf files
- Impacts
  - Ability to analyze RFP documentation is severely limited through the absence of MSWord versions of "official" pdf files
- Recommendations
  - Commit to supporting Industry needs which further NGA's interests
  - Produce all RFP documents in MSWord, with pdf versions representing "official" documentation



# **Utilize MS Office Applicat**

#### Observations and Findings

- NGA traditionally utilizes pdf files for documents in procurement activities
- RFPs often require delivery of content adhering to specific formats
- RFP documents (generally in pdf format) often contain scanned versions of forms and tables required for a
  proposal
- Industry retypes forms and tables to meet RFP requirements for delivery
- Errors are introduced in the re-generation of RFP materials

#### Impacts

- Errors introduced in the re-generation of RFP materials could affect proposal evaluation a risk for disqualification
- Different versions of required forms and tables, from different offerors, inhibit NGA's ability to equitably evaluate proposals – for adherence to standards and for content

#### Recommendations

- Provide forms and tables via standard MSOffice applications in RFP packages
  - MSWord for tables
  - Excel for cost-type information
  - Access for database content
  - Project for schedules



