Industrial Capability & Material Readiness

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Industrial Capability & Warstopper Program

Ronnie Favors
Defense National Stockpile Center (DNSC)
Agenda

• Industrial Capability Readiness
  • The Surge and Sustainment (S&S) Process
  • Electronic Capability Assessment Plan
  • Warstopper Program
  • Execution – Warfighter Support

• Strategic Material Readiness Initiatives
  • Strategic Metal Buffer
  • Defense National Stockpile Center
Industrial Capability & Material Readiness

INDUSTRIAL CAPABILITY
Electronic Capability Assessment Plan

- System Login
- Select solicitation
- CAP data collection process – report:
  - Capability to deliver Services’ go-to-war requirements
  - Production constraints preventing requirement delivery
  - Opportunities and costs to mitigate constraints
- Summarize data
  - Review
  - Print
  - Submit
eCAP - Login

- Self register or Login
- First user – Super User
- eCAP tool access
eCAP – Select Solicitation

Select Solicitation

SOLICITATION, OFFER AND AWARD

2. CONTRACT NO.

3. SOLICITATION NO

SPM7LX-08-R-0011

Prepare CAP
Start Capability Assessment

Begin the process by checking the offered box of the NSNs that you are including in your proposal response. Please check the solicitation to verify surge is part of the evaluation criteria. If an offer for surge will be made, please click save and continue. If a group is provided for, then all items within the group must be fully covered.

Offer Full Quantity

Yes

No
eCAP – Constraints

Solution Available

Proposed Solution

Or

CAP Report
eCAP – Proposed Solution
eCAP - Summary

CAP Summary

Company Name: BearingPoint
CAGE: 54321
Date Completed: 3/18/2009
Completed by: Joe Vender

 Solicitation Number: SP000000R9999
(Formerly PA IN)

Part 1 - S&S Coverage Capability

Additional quantities of an item that must be shipped to DLA for each 30-day period, assuming you receive the order up to the full quantity at the beginning of each period.

<table>
<thead>
<tr>
<th>NUM. GROUP</th>
<th>MFR</th>
<th>CT</th>
<th>Diffed Amount</th>
<th>Diffed Interval</th>
<th>Keep Up Time In Days (If Needed)</th>
<th>End Date</th>
<th>Initiation Date For Keep Up (days)</th>
<th>Sourcing</th>
<th>Provision Limit</th>
<th>Constraints</th>
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<tbody>
<tr>
<td>0000-00-00000</td>
<td>EA</td>
<td>42</td>
<td>40</td>
<td>30</td>
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<td>0</td>
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<td>40</td>
<td>30</td>
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<td>0</td>
<td>N/A</td>
<td>0</td>
<td>Production</td>
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Part 2 - Description of Constraints

The Offeror certifies that the constraint is factual.

<table>
<thead>
<tr>
<th>Category</th>
<th>Constraint Description</th>
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<tbody>
<tr>
<td>Item</td>
<td>Description</td>
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<tr>
<td>A</td>
<td>Description</td>
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</table>

Part 3 - Proposed Solutions & Government Investments Required to Obtain S&S Coverage Capability

Part 3.1 - Coverage to be Gained

The Offeror certifies that they cannot deliver the stated quantities according to the surge delivery schedule without implementing the proposed solution. The Offeror also certifies that the solution offered is the most efficient method to resolve the S&S capability shortfall. If a government investment is required it is indicated in Section 3.2.

Numbers reflect data after the proposed solution is implemented.

<table>
<thead>
<tr>
<th>NUM. GROUP</th>
<th>MFR</th>
<th>CT</th>
<th>Amount</th>
<th>Interval</th>
<th>Range</th>
<th>End Days</th>
<th>Safety Stock</th>
<th>Comment</th>
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<td>0000-00-00002</td>
<td>EA</td>
<td>42</td>
<td>30</td>
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<td>0</td>
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<td>0000-00-00003</td>
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<td>42</td>
<td>30</td>
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</table>

Part 3.2 - Funding Requirement to Obtain S&S Coverage

Costs applicable to coverage gained on items in Part 3.1.

Investment Cost Details

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Unit</th>
<th>Price</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Description</td>
<td>Unit</td>
<td>Price</td>
<td>Quantity</td>
<td>Unit Price</td>
<td>Total Cost</td>
</tr>
</tbody>
</table>

Part 4 - Group Items Detail

Here is a breakdown of which items are incorporated into the groups mentioned above.

<table>
<thead>
<tr>
<th>Group Name [NUM]</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>group 1</td>
<td></td>
</tr>
</tbody>
</table>

Part 5 - Uploaded Files

To view or upload in this area.

Source Selection Information—See FAR 2.101 and 3.104.
• Provide incentives for lean manufacturing initiatives
• Provide industrial equipment
• Stage raw material and subcomponents
• Industrial base maintenance contracts to maintain domestic industry
• Supplement vendor’s inventory to guarantee access to commercial inventory
EXECUTION – WARFIGHTER SUPPORT

• Critical transmission part for the Bradley Fighting Vehicle (BFVS) – requires special steel
• BFVS transmission cited as number 2 of top 5 Army readiness drivers
• Pre-positioned raw material and material rotation reduced the lead time for 571 to 77 days
• Reduced backorders

Wartime Demand Surged 1300% above peacetime levels
• 84 different, low peacetime demand hydraulic tubes
• Tubes share similar components and manufacturing processes
• Contractor increased raw material safety stock at no cost
• Reduced Production Lead Time from 508 to 129 days and 75 days in Wartime

Surged 1000% above peacetime levels
EXECUTION – WARFIGHTER SUPPORT

- Cesium lamp defeats Infrared (IR) missiles
- Low peacetime demand/High Wartime demand
- Staged raw materials & subassemblies at BAE
- Reduced Production Lead Time from 360 to 30 days (Sapphire crystal has 4-month lead time to “grow” in lab)

Reduced backorders in ½ over 6-months
EXECUTION – WARFIGHTER SUPPORT

- Critical valve system used on Reverse Osmosis Water Purification Unit (ROWPU)
- Sole source manufacturers’ plant was destroyed by Hurricane Katrina – lost item production ~ 1 year
- Urgent request from Iraq for help with this part to keep systems running
- Surge & Sustainment coverage kept 24 ROWPUs operating

Continuity in water supply for troops in theater
EXECUTION – WARFIGHTER SUPPORT

- Reduced production lead time – 200 to 63 days
- Reduced delivery times by four months

Nut, clip-on

Geotextile Steel
Industrial Capability & Material Readiness

STRATEGIC MATERIAL READINESS INITIATIVES
## Strategic Material Readiness Initiatives

<table>
<thead>
<tr>
<th>AREA</th>
<th>WARSTOPPER Strategic Material Project</th>
<th>DNSC Strategic Material Security Program</th>
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<tbody>
<tr>
<td>Focus</td>
<td>Wartime Surge &amp; Sustainment</td>
<td>Peacetime &amp; Wartime</td>
</tr>
<tr>
<td>Level</td>
<td>Sustainment</td>
<td>• Weapon System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sustainment</td>
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<tr>
<td>Scope</td>
<td>DLA Procured Items</td>
<td>• DOD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Essential Civilian</td>
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<tr>
<td>Primary Method</td>
<td>Vendor-to-Vendor</td>
<td>• Vendor-to-vendor managed inventory</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Right to recover</td>
</tr>
<tr>
<td>Expertise</td>
<td>• Procurement</td>
<td>• Government Furnished Property</td>
</tr>
<tr>
<td></td>
<td>• Finished product supply chains</td>
<td>• Right to buy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Procurement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Material Supply Chains</td>
</tr>
</tbody>
</table>
Strategic Material Project

- **Strategic Metals (Steel Grade 300M & M50)**
  - Process Materials
    - Steel Precursor Metals: Increased flexibility and reduced investment.
    - Investment is not finished goods unique; investment becomes finished good unique and limited.
  - Lead-time Reduction (e.g., five months for raw material, near zero for WIP/R finished goods).
  - Increased flexibility (e.g., specification, product mix).
  - Reduced investment cost (e.g., labor for forward and finished goods).
  - Strategic (Whisker) Investment (shares previously invested in this area).
  - Tactical (Whisker) Investment (typical whisker investment area).
  - Service WIP Investment.

- **NOMEX® Fibers**
  - Fibers (Dupont):
    - Spinning (3 vendors): Vertical Spinning, Weaving & Finishing (2 vendors) Max capacity 266K garments/mth.
    - Weaving & Finishing (9 vendors) Max capacity 100K garments/mth.
    - Printing (1 vendor) Max capacity 100K garments/mth.
    - Assembler (7 vendors) Max capacity Greater than 100K garments/mth.

- **Reduced Lead-time**
- **Vendor-to-vendor**
- **Pedigree & Warranties**
- **Government Release**
- **Price**
Strategic Material Project – Execution

- Interim procedures established –
- Material ready for GBM approved release as vendor-to-vendor sale
- Developing pilot execution test plan

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Maximum Lead-time</th>
<th>Applications</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>300M Billets</td>
<td>10 - weeks</td>
<td>Landing Gear</td>
<td>AMS 6257, AMS 6417, AMS 6419, BMS 7-26, C05-1190, CE-0896, CPS 4911, DMS 1935, GM 1012, IGQ 41-11, LAT 1.9042, MIL-S-83135, MIL-S-8844, MTL 1201, S155, ZFNL 9207</td>
</tr>
<tr>
<td>300M (Round bar – BAE added testing)</td>
<td>18 - weeks</td>
<td>Torsion Bars</td>
<td></td>
</tr>
<tr>
<td>M50 (2.76 - 8” Diameter)</td>
<td>14 - weeks</td>
<td>Bearings</td>
<td>AMS 6491, CFR 5200, CPW 378, D1198, DMD 119-20, EMS 52491, GE C50TF56, KBM250, MSRR 6083, PWA 725, PWA 793 and others</td>
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<tr>
<td>M50 (0.5 -2.75” Diameter)</td>
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Material Available

<table>
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<th>Maximum Lead-time</th>
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<th>Specifications</th>
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National Defense Stockpile - History

• Shortages of WWI - War Industries Board recommends setting aside critical materials
• National Defense Stockpile (NDS) Program – 1939
• Executive Order 12626 – designated the Secretary of Defense as the “Stockpile Manager”
• Fiscal Year (FY) 1994, Congress authorized the sale of excess NDS inventory
  – Since 1994, commodity sales have totaled approx $7B
  – Market value of remaining NDS inventory is approx $1.6B
• 2006, concerns raised about DOD’s ability to supply material for defense programs given current market conditions & increasing reliance on foreign sources of supply
National Defense Stockpile - ?

• In 2006, House Armed Services Committee (HASC) asked for review of DOD policy to dispose of NDS materials
• In 2007, Independent Study conducted by National Materials Advisory Board (National Academy of Sciences)
• In 2008, Senate Appropriations Committee (SAC) asked DoD to:
  – Describe materials critical to strategic defense interests
  – Describe domestic suppliers and their reliance on foreign sources of production
  – Describe foreign countries’ efforts to stockpile critical material
  – Describe steps to ensure availability during protracted conflict
• In 2008, USD (AT&L) established a Working Group (WG) to review NAS report findings and address issued raised by Congress
• Conclusion: Establish Strategic Material Security Program (SMSP)
SMSP Status

- Report sent to Congress – April 2009
- Briefed House Arms Services Committee (HASC), subcommittee on Readiness
  - Received positive/favorable response
SMSP Program Concept

• Integrated, interagency approach to strategic materials management
• Military material needs in scenarios ranging from non conflict to full mobilization
• Essential civilian requirements
• Ability to quickly adapt to global market conditions to ensure material availability

Wide variety of risk mitigation strategies
Develop risk-based value propositions
Programmatic flexibility to efficiently and effectively acquire the right materials
SMSP Process

Services Identify Vulnerable Platforms/Weapons

A List of Strategic Materials is Developed

List of Materials is “Filtered” for Supply Chain Risks

Mitigation Strategies are Selected and Applied

- Identify materials
  - Defense strategic and critical materials
  - Essential Civilian

- Risk Assessment
  - Military conflict scenarios
  - Peacetime scenarios

Mitigation Strategies

Traditional Stockpile Inventory

Strategic Sourcing

- Buffer Stock Vendor-to-Vendor Transactions
- Increased Capacity

Partnering with Friendly Nations (e.g., JOGMEC)

- Virtual Vendor Managed Inventory
Risk Assessment Factors and Conditions

Factors:

- Changes in global market conditions
- Economic changes
- Geo-political issues
- Competition for scarce/limited resources
- Changes in U.S. industrial base
- Loss of access due to natural/man-made disasters

Conditions:

- National security emergency scenarios, and
- Peacetime supply disruptions scenarios
DNSC Services

• Material expertise and acquisition support
• Material risk assessments
• Provide/implement mitigation strategies
  – Ensure availability of materials
  – Lead-time reduction
  – Cost Reductions/Avoidance
• Buying agent; drawing on leveraging quantities to benefit DoD by consolidating requirements
DNSC Benefits to Military Services

• Recognized as *material experts*
  — with global market understanding and ability to maneuver in markets without undue disruption

• Act as your *buying agent*
  — can support military services by ensuring timely availability of materials needed to satisfy defense contracts
  — Predictable price
  — Provide “Right-to-recover” opportunities

• Perform role of logistics *facilitator*
  — Ensuring the release of materials to DoD contractors, shielding the defense contracts from surging market prices and ensuring the integrity of the materials certifications
SMSP Execution

• DNSC issued solicitation to procure titanium:
  — Navy Requirement: 50,400 to 268,800 lbs over 4 years
  — Army Requirement: 10,000 to 100,000 lbs annually; provided 10,000 lbs of offal material as feedstock

• Solicitation incorporated:
  — Army receive a “credit” for the offal material provided as feedstock
  — “Right to recover” opportunity included

• Small scale procurement for Army resulted in approximately $1M cost avoidance

• Collaborating with Army to expand the procurement to a much larger scale
Readiness Initiatives - Next Steps

• Outreach to Military Services and industry to learn about material needs and issues
  – Attendance at DoD sponsored conferences (e.g., DMC)
• Establish a process to compile “live” data on materials used in weapon systems
• Phase 1 of Strategic Material Management System (S2SM) to support Strategic Material Project (SMP)
S2MS Phase 1

- Management tool for strategic materials
- Collect part to material mapping (requirements)
  - Defense material requirements
  - Identify material for risk assessment
  - Impacts of MERIT & REACH
- Catalog of available materials (risk mitigation strategies)
- Coordinate material release requests (execution)

<table>
<thead>
<tr>
<th>Material Availability Summary:</th>
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<tbody>
<tr>
<td>Company: MAN9X</td>
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<tr>
<td>Complied By: Evgeni Malkin</td>
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<td>Inquiry Reference: 577650678</td>
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<table>
<thead>
<tr>
<th>Part Number</th>
<th>Part Name</th>
<th>Material Grade</th>
<th>Specification</th>
<th>Form</th>
<th>Available</th>
<th>Source</th>
<th>Request Release</th>
<th>Request Assistance</th>
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<tbody>
<tr>
<td>200</td>
<td>Torsion Bar Left</td>
<td>300M</td>
<td>BMS 7-25</td>
<td>Bar, Round</td>
<td>Yes</td>
<td>Smith Steel</td>
<td>✔️</td>
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<tr>
<td>201</td>
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<td>M50</td>
<td>PWA 725</td>
<td>Bar, Round</td>
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<td>Davey Jones</td>
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