TECHNOLOGY BASE INITIATIVES

BRIEFING TO APBI

DR. RICHARD E. McCLELLAND

OCTOBER 2004
Current Operations

Army Transformation
**FY 05 CONTRACT ACTIONS**

**Existing Contracts / 05 Actions**

**SURVIVABILITY TECHNOLOGIES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Protection Testing</td>
<td>$500K</td>
<td>EMRTC</td>
</tr>
<tr>
<td>FCLAS Development</td>
<td>$11.5M</td>
<td>Chang Industries</td>
</tr>
<tr>
<td>Active Protection Modeling</td>
<td>$100K</td>
<td>Gleason</td>
</tr>
<tr>
<td>Engineering Support</td>
<td>$250K</td>
<td>GS Engineering</td>
</tr>
<tr>
<td>Engineering Support</td>
<td>$500K</td>
<td>Optimetrics</td>
</tr>
<tr>
<td>Active Protection Analysis</td>
<td>$250K</td>
<td>MIT / Lincoln Labs</td>
</tr>
<tr>
<td>Engineering Support</td>
<td>$300K</td>
<td>Booz Allen</td>
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<tr>
<td>Engineering Support</td>
<td>$100K</td>
<td>Signal Solutions</td>
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</table>
### FY O5 CONTRACT ACTIONS

**Existing Contracts / 05 Actions**

**SURVIVABILITY TECHNOLOGIES – CONTINUED…**

<table>
<thead>
<tr>
<th>Project</th>
<th>Cost</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armor Material Property</td>
<td>$100K</td>
<td>Univ of Hawaii</td>
</tr>
<tr>
<td>Armor Materials Support</td>
<td>$300K</td>
<td>Sandia National Lab</td>
</tr>
<tr>
<td>Adv Joining NDE Concepts</td>
<td>$300K</td>
<td>Michigan State Univ</td>
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<tr>
<td>Armor Material Research</td>
<td>$100K</td>
<td>ARA</td>
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<tr>
<td>Armor Modeling and Effects</td>
<td>$1.3M</td>
<td>SWRI</td>
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<td>Assymetric Thyristor Switch</td>
<td>$750K</td>
<td>Silicon Power Corp.</td>
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<tr>
<td>Adv ATD Structure</td>
<td>$1.2M</td>
<td>UDLP</td>
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<td>FCS Laser Hardened Vision</td>
<td>$350K</td>
<td>Boeing / McD-Douglas</td>
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<tr>
<td>Signature Modeling Validation</td>
<td>$1.5M</td>
<td>Thermo Analytics</td>
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<tr>
<td>Assured Mobility Motion Sim</td>
<td>$120K</td>
<td>Dynamic Animation Sys</td>
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</table>
## FY 05 CONTRACT ACTIONS

### Existing Contracts / 05 Actions

**VETRONICS TECHNOLOGIES**

- Vetronics Tech Integration $5.25M GDLS
- Remote Imaging for UGVs $500K Lockheed Martin
- Autonomous Urban SUGV $487K iRobot
- ODIS $2.4M Kuchera
FY O5 CONTRACT ACTIONS

Existing Contracts / 05 Actions

WATER TECHNOLOGIES

- Water from Exhaust  $250K  LexCarb
- Water from Air      $1M    Mesosystems/Honeywell/Hamilton
- Water Monitoring   $2M    Wayne State Univ
- NBC Water Treatment $2M    ACTI
FY 05 CONTRACT ACTIONS

Existing Contracts / 05 Actions

MOBILITY TECHNOLOGIES

• Power & Energy SIL $1.5M SAIC
• Test Platform Study $30K SWRI
• Fuel Cell Consult $55K TPS
• HE HMMWV Upgrade $1.5M DRS
• High Pwr/Energy Li Ion Batteries $2.4M SAFT
• 6 X 6 Development $800K NATC
• Fuel Cell Cost Analysis $300K TIAIX
# FY O5 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### MOBILITY TECHNOLOGIES – CONTINUED…

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
<th>Vendor</th>
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</thead>
<tbody>
<tr>
<td>Super-lattice SiC</td>
<td>$200K</td>
<td>Titan</td>
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<tr>
<td>Fastening &amp; Joining Research</td>
<td>$1.1M</td>
<td>Oakland Univ</td>
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<tr>
<td>Combat Vehicle Research</td>
<td>$3.5M</td>
<td>CTC</td>
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<tr>
<td>FCS Engine Development</td>
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<td>Ricardo</td>
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<tr>
<td>FCS Engine Development</td>
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<td>Honeywell</td>
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<tr>
<td>FCS Engine Development</td>
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<td>DDC/MTU</td>
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<tr>
<td>FCS Engine High Temp Tribology</td>
<td>$200K</td>
<td>SWR</td>
</tr>
<tr>
<td>Li Ion Battery Chemistry</td>
<td>$7.5M</td>
<td>TJ Technologies</td>
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</table>
FY O5 CONTRACT ACTIONS

Existing Contracts / 05 Actions

BRIDGING COUNTERMINE TECHNOLOGIES

- Lightweight Vehicle Mounted Countermine $455K KRC
- Advanced Modular Composite Bridge $6.2M Seeman
- Field Repair Composite Bridges $750K Alphastar
- Innovative Wet Gap Crossing Technologies for FCS $120K Triton
- Biodegradable Matting / Temp Roadways $70K Texas Research
- Rapidly Deployable Gap Defeat Tech for FCS $1.6M TBA
FY 05 CONGRESSIONAL ADDS

Approximately $152M in Projects

- Low Temperature Research Center
- Partnership for Next Generation of Vehicle
- University based Automotive Research Center
- Adv High Power Rechargeable Stored Energy
- Advanced Electric Drives
- Advanced Energy and Manufacturing Technology
- Affordable Low Temp High Performance Adv Rechargeable Stored Energy Device
- Army Trailer Technology Insertion
- Advanced Vehicle Life Consumption & Maintenance Prognostics
- Mobile Thermal Perimeter Surveillance System

- Battlefield Production of Hydrogen for Fuel Cell Vehicles
- CALSTART Defense Adv Transmission Technology
- Center for Tribology and Coatings
- Compact Pulsed Power for Defense Applications
- Distributed Transportable Synthetic Fuel
- Flexible JP-8 Pilot Plant Program
- Future Hybrid Vehicle Systems
- Light Utility Vehicle
- Military Wheeled Vehicle Electronic Architecture Integration
FY 05 CONGRESSIONAL ADDS

Continued…

- Multi-purpose Utility Vehicle Reconfiguration
- Nano-Eng Materials for High Performance Armor
- Rapid Prototyping
- SmarTruck
- Stoichiometric Explosive Detector System
- Unmanned Vehicle Control Technologies
- Unmanned Vehicle Surveillance & Sensor System
- Wireless Sensors for Vehicle Maintenance
- Advanced Mobile Micro Grid Program
- Advanced Army Modular Composite Bridge

- Advanced Powertrain and Intelligent Control System for M-Gators
- Advanced Thermal Management Controls
- Aluminum Lightweight Structures
- Armored Composite Cab Development
- Battery Charging Technology
- CAV Technology Transition
- Combat Vehicle Research
- Composite Vehicle Research
- Development of Logistical Fuel Processes
- Digital Humans & Virtual Reality
FY 05 CONGRESSIONAL ADDS

Continued…

• Electro chromatic Material Windows
• Fastening and Joining Research
• FREEDOM Software Environment
• Fuel Cell Ground Support Equipment Demonstration
• High Strength Powder Metal Gears for Transmissions
• IMPACT Concept Modeling Tool Suite
• Innovative Materials for Infrastructure Security
• International Commercially Based Logistical Support Trucks
• In-Theater Systems Development
• Military Vehicle Technologies
• Virtual Systems Integration Lab
• Hybrid Vehicle Test Maintenance

• Mobile Hydrogen Infrastructure (MHI)
• Modular Logistics Transport Technology
• Next Generation Non-Tactical Vehicle Propulsion
• N-Step Enabled Manufacturing Cell for FCS
• Opposed Piston Opposed Cylinder (OPOC) Engine for APU
• Pacific Rim Corrosion Program
• Rapid Optimization of Commercial Knowledge (ROCK)
• Rotary Multi-fuel APU
• Secure Pervasive Computing for Advanced Control Vehicles
• Tactical Vehicle Design Tools
FUTURE TACTICAL TRUCK SYSTEMS ADVANCED CONCEPT TECHNOLOGY DEMONSTRATION

(FTTS ACTD)

Status:

Maneuver Sustainment Variants (MSVs)
- Awarded (2) Phase I Modeling & Simulation Contracts - $4.9M Total
- Oshkosh Truck and Stewart Stevenson

Utility Variants (UVs)
- Pending Contract Award in October 04

FY 05 Planned Activities:
- MSV and UV Prototype Build Downselect in June 05 (limited to Phase I awardees)
- Phase II Prototype Build Contract Awards in July 05 - $25M

NATIONAL AUTOMOTIVE CENTER POC: MR. PAUL SKALNY, 586.574.5436
SMALL BUSINESS INNOVATION RESEARCH (SBIR)

FY 04 /05

• 54 Phase I Awards for FY 04 Valued at $3,757,579

• 39 Phase II Selections for FY05 valued at $28,525,066 with an additional $1,687,843 in Options
SMALL BUSINESS INNOVATION RESEARCH (SBIR)

- Pre-Solicitation – MAY 2005
- Open Solicitation – JULY 2005

TARDEC SBIR Managers: Mr. Alex Sandel, 586.574.7545
Mr. Jim Mainero, 586.574.8730
FY O5 COMPETITIVE SOLICITATIONS

Other possible Solicitations may be released in FY 05

VETRONICS TECHNOLOGY AREA:
POC: MR. DAVE THOMAS, 586.574.6160

- Autonomous Robotics Technology Integration $3M
- Human Robot Integration Program $300K

SURVIVABILITY TECHNOLOGY AREA:
POC: MR. STEVEN SCHEHR, 586.574.5780

- Technical Support $500K
FY O5 COMPETITIVE SOLICITATIONS

Other possible Solicitations may be released in FY 05

MOBILITY TECHNOLOGY AREA:
POC: MR. DAN HERRERA, 586.574.6411

- Dynamic SIL $6M
- Electric Motors and Inverters $2M
- Bi-Directional DC-DC Converter $488K
- Fuel Cell Plan $30M (FY06-08)

TARDEC ACQUISITION SUPPORT TEAM REPRESENTATIVE:
MS. CASSANDRA MAXWELL, 586.753.2619

http://contracting.tacom.army.mil/opportunity.htm
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