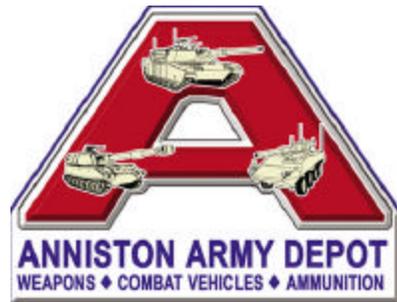


Supply Chain Council Award for Supply Chain Operational Excellence

U.S. Army (TACOM)
Anniston Army Depot
Manufacture and Distribution of High Mobility Multipurpose Wheeled Vehicle (HMMWV) Armor Survivability Kits (ASK) in support of the Global War on Terrorism (GWOT) and Operation Iraqi Freedom (OIF)

AMSTA-AN-MN
POC: Gilda Knighton
DSN 571-7523
Comm 256 235-7523
E-mail: knightong@anad.army.mil



2003 SUBMISSION

FEBRUARY 2004

This package can be made publicly available

EXECUTIVE SUMMARY

Anniston Army Depot is dedicated to its vision to be the premier DoD center for industrial and technical excellence (CITE) for current and future combat systems by being

- Uniquely Vital
- Technologically Superior
- Unconditionally Responsive...Worldwide

To this end, Anniston is the Army's designated center for industrial and technical excellence for combat vehicles, artillery, and small caliber weapons.

Assigned vehicle systems include:

- M1A1
- M1A2
- M88A1
- M60A1 AVLB
- M9ACE
- FAASV
- M113
- M577
- Paladin

Artillery missions include:

- M198 Howitzer
- M119 Towed Howitzer

Small Arms missions include:

- M16A2 Rifle
- Squad Auto Weapon
- 9MM Pistol
- 50 Caliber Machine Gun
- 7.62 Caliber Machine Gun
- MK19 Machine Gun
- M203 Grenade Launcher

Anniston Army Depot's primary objectives include synchronization with the Army's transformation by:

- Transforming our industrial processes, technologies, and skills to become an integrated component of the Army Objective Force
- Developing business practices that fully integrate leading edge technology
- Implementing CITE designation
- Right-sizing/modernizing our facilities, equipment, and organizations to accommodate current and future missions
- Exceeding customer expectations through effective, efficient, and proactive response, integrating logistics power projection and weapon system support to maintain readiness

Anniston leads the Army and DoD in its public/private partnership initiative, wherein the depot and original equipment manufacturers partner on a wide range of vehicle conversions and upgrades to include: the Stryker, M1A1 AIM, M1A2 SEP, M1A2 Upgrade, M113 Family of Vehicles (FOV), M88A2, Fox, Paladin, Improved Ribbon Bridge, the Opposing Surrogate Vehicle (OSV), and more.

The depot is a support provider for 38 tenant organizations, including the Defense Distribution Depot Anniston (DDAA), the Anniston Munitions Center (ANMC) the Anniston Chemical Activity (ANCA), the Program Manager for Chemical Demilitarization (PMCD), the Center of Military History Clearing House, the 722nd Ordnance Company (Explosive Ordnance Disposal – EOD), and the Defense Reutilization and Marketing Office (DRMO).

Anniston provides fielding support for over 150 missions, of which 19 are OCONUS and utilize over 400 personnel. This includes direct support to our troops deployed to Southwest Asia.

In support of Desert Shield/Desert Storm, Anniston deployed in excess of 250 employees to Southwest Asia to perform modification and repair of combat vehicles. Since January 2003, the depot has had teams in theatre in support of the Global War on Terrorism and Operation Iraqi Freedom. These teams perform overhaul of secondary items and the application of the HMMWV Armor Survivability Kits.

In summary, Anniston's primary goal, mission, and objective is to provide quality support to the soldier. In furtherance of that dedication, the depot has been the key contributor and participant in the development, production, and installation of the High Mobility Multipurpose Wheeled Vehicle (HMMWV) Armor Survivability Kit effort, an added protection structure, saving soldier lives daily in Southwest Asia. It is for this effort that Anniston's submits this award package.

TABLE OF CONTENTS

Section 1: General Information and Project Complexity

- 1-1: Name of Submitting Organization
- 1-2: Name of Responding Organization
- 1-3: Brief Mission Description
- 1-4: Award Category of Submission
- 1-5: Description of the Proposed Supply Chain and Processes Submission Spans
- 1-6: External Supply Chain Partner Organizations
- 1-7: Internal Supply Chain Partner Organizations
- 1-8: POC Information for Each Supply Chain Partner

Section 2: Implementation

- 2-1: Why Supply Chain Initiative Undertaken and How it was Selected
- 2-2: Project Duration
- 2-3: The Process
- 2-4: Challenges Encountered
- 2-5: Metrics
- 2-6: Performance Benefits
- 2-7: Supporting Organizational Objectives

Section 3: Knowledge Transfer

- 3-1: Sharing Lessons with Internal Organizations
- 3-2: Transferring the Benefits

SECTION 1: GENERAL INFORMATION AND PROJECT COMPLEXITY

1-1: Name of Submitting Organization:

Anniston Army Depot

1-2: Name of Responding Organizations:

Anniston Army Depot, Directorate of Production, Directorate of Production Engineering, Directorate of Mission Plans and Operations, Directorate of Public Works, and Directorate of Contracting

1-3: Brief Mission Description:

In meeting our primary objective of sustaining the highest quality products and services for the troops deployed in the GWOT and Operation Iraqi Freedom (OIF), the depot continues to provide at-depot and in-theatre support to our soldiers. The depot has had teams in-theatre in support of OIF since January 2003, performing overhaul of secondary items such as the 1790 and 8V engines as well as the application of the HMMWV Armor Survivability Kits. We have been tasked to continue to provide in-country support for a minimum of two years.

In continually seeking additional opportunities to provide a higher level of soldier support, Anniston began participating in the HMMWV Armor Survivability Kit effort in September 2003. These kits will provide the HMMWVs – and thus the soldiers – greater protection from Improvised Explosive Devices (IED) and small arms fire from Iraqi troops. Armor plate doors with ballistic glass are replacing the fiberglass and canvas doors currently installed on the HMMWV vehicles. The results will be numbers of lives saved as well as a reduction in injuries sustained by our troops from penetrating explosive devices.



During the concept/design phase of this program at the Army Research Lab (ARL) at Aberdeen Proving Grounds, Aberdeen, MD, Anniston was approached by ARL's Commanding Officer, inquiring if the depot would be interested in participating in the effort for design, development, prototype, and manufacture of the Armor Survivability Kit. Always standing ready to support soldier-based initiatives, Anniston immediately responded positively to the inquiry, and was thus invited to attend the design meetings at ARL. The depot was involved in the testing of materials to determine the best candidates for the doors. We also provided input in the design phase of the doors and how they would be incorporated into the HMMWV configuration effort. The depot's recommendations were subsequently incorporated into the Technical Data Package (TDP).

With Army funding appropriated, and the TDP approved, the Army Research Lab again approached the depot for production of the life-saving kits. Due to our ever-standing commitment to the soldier and the urgency of getting these doors installed because of the daily assaults the soldiers faced, Anniston realized that the magnitude of the potential workload should be brought to the attention of Ground Systems Industrial Enterprise (GSIE) officials.

GSIE is a business group of the U.S. Army Tank-automotive-Armaments Command, the depot's headquarters. Under the umbrella of the GSIE are: Anniston Army Depot, Rock Island Arsenal, Watervliet Arsenal, Sierra Army Depot, Red River Army Depot, and the Lima Army Tank Plant. Anniston coordinated the effort with the Ground Systems Industrial Enterprise, providing the TDP and POCs at ARL. After reviewing the requirements, GSIE coordinated the effort through ARL and the TACOM PM Office.

As a result, based on available funding, Anniston Army Depot and Rock Island Arsenal entered into a partnership in November 2003, to produce an initial quantity of 1,000 Armor Survivability Kits for both two-door and four-door HMWWVs. The depot produced their first kit in early December 2003. We have completed the initial production of 500 kits and are currently producing a second production quantity of 997 kits.

The depot has 70 employees dedicated to this effort, working two, 12-hour shifts, seven days a week.

For the follow-on production effort, the other Ground Systems Industrial Enterprise installations are being brought onboard to support this effort and will participate in the manufacture of additional kits as follows::

- Rock Island Arsenal (RIA) 1205
- Red River Army Depot (RRAD): 235
- Sierra Army Depot (SIAD): 708
- Watervliet Arsenal: 115

In addition, Letterkenny Army Depot has been brought onboard to produce 410 kits.

Based on the success of this project, the potential for requirements for thousands of additional kits exists.

1-4: Category of Submission:

Supply Chain Operational Excellence Award

1-5: Description of the Proposed Supply Chain and Processes:

The Army life cycle process from identification of requirement through fielding, to include:

- Design
- Test
- Prototype
- Production
- Delivery
- Fielding

1-6: Supply Chain External Partner Organizations:

- Tank-automotive-Armaments Command (TACOM)
- Tank-automotive Research, Development and Engineering Center (TARDEC)
- Army Research Lab (ARL)
- Ground Systems Industrial Enterprise (GSIE)
- Rock Island Arsenal (RIA)
- Sierra Army Depot (SIAD)
- Watervliet Arsenal (WVA)
- Letterkenny Army Depot (LEAD)
- Red River Army Depot (RRAD)
- TACOM ILSC Transportation
- Defense Distribution Depot Anniston (DDAA)

1-7: Internal Partners and Organizations:

- Office of the Commander
- Directorate of Mission Plans and Operations
- Directorate of Contracting
- Directorate of Production
- Directorate of Public Works
- Directorate of Production Engineering

1-8: Primary POC Information for Each Supply Chain Partner:

- Major General N. Ross Thompson III, Commanding General, U.S. Army Tank-automotive-Armaments Command, Mgthompson@tacom.army.mil, (586) 574-5131, DSN 786-5131, 6501 E. 11 Mile Road, Warren, MI 48397-5000
- Dr. Richard McClelland, Director, Tank-Automotive Research, Development, and Engineering Center (TARDEC), mcclellandr@us.army.mil, (586) 574-6144, DSN 786-6144, 6501 E. 11 Mile Road, Warren, MI 48397-5000
- Mr. Fred Smith, Deputy Director, Ground Systems Industrial Enterprise (GSIE), frederick.l.smith@us.army.mil, (309) 782-2416, DSN 793-2416, 1 Rock Island Arsenal, Rock Island, IL 61299-7270
- COL Mike Mullins, Commander, Rock Island Arsenal, mike.mullins@us.army.mil, (309) 782-6035, DSN 782-6035, 1 Rock Island Arsenal, Rock Island, IL 61299-5000
- LTC Kevin Kahley, Commander, Defense Distribution Anniston Alabama, kevin.kahley@dla.mil, (256) 235-7527, DSN 571-7527, 7 Frankford Avenue, Anniston, AL 36201
- COL Michael Cervone, Commander, Red River Army Depot, michael.cervone@us.army.mil, ((903) 334-3111, DSN 829-3111, 100 Main Drive, Texarkana, TX 75507-5000
- Mr. Mike Ott, Traffic Management Specialist, TACOM ILSC Transportation, mike.ott@us.army.mil, (586) 574-6653, DSN 786-6653, 6501 E. 11 Mile Road, Warren, MI 48397-5000
- COL Paul Plemmons, Commander, Sierra Army Depot, paul.plemmons@sierra.army.mil, (530) 827-4666, DSN 855-4666, Building P, 1 Herlong, CA 96113
- Mr. Mike Keele, Army Research Lab, keele@arl.army.mil, (410) 278-6835, Building 120, Aberdeen Proving Grounds, Aberdeen, MD 21005-5006
- COL Don Olson, Commander Watervliet Arsenal, Donald.olson@us.army.mil, (518) 266-4294, DSN 374-4294, 1 Buffington St., Watervliet, NY 12189-4000

- COL Bill Guinn, Commander, Letterkenny Army Depot, alky@emh1.lead.army.mil, (717) 267-8300, DSN 570-8300, 1 Overcash Avenue, Chambersburg, PA 17206-4150
- COL Gerald Bates, Commander, ANAD, gerald.bates@us.army.mil, (256) 235-7511, DSN 571-7511, 7 Frankford Avenue, Anniston, AL 36201

SECTION 2: IMPLEMENTATION

2-1: Explain Why the Supply Chain Initiative was Undertaken and How It was Selected:

Due to the urgency and magnitude of the effort and the immediate requirement to save soldier lives, the normal life-cycle supply chain process was simply not an option. Neither was utilizing the federal supply system channel an option. These systems could not meet the demands or the quantities of material required in the specified timeframe.

Anniston coordinated with its Directorate of Contracting (DOC) to acquire the necessary raw materials. DOC performed market research to determine which vendor(s) could provide the materials required to manufacture the armor doors. Hardware and other required parts were bought through Local Purchase and credit cards.

After selecting the vendor, the depot's contracting office ordered all of the armor and ballistic glass for the first 1,000 Armor Survivability Kits and had RIA's material shipped to their installation directly from the supplier.

To date, Anniston has completed their requirement of 500 ASK.

2-2: Indicate the Duration of the Project. Note if the Project was a Pilot that is Being Rolled Out. Note if the Project is Ongoing/Still in Progress:

Project initiation at Anniston began in September 2003 with a request for participation in the effort from the Army Research Lab (ARL) at Aberdeen Proving Grounds, Aberdeen, MD. Subsequently, Anniston received a funded requirement for 500 each HMMWV Armor Survivability Kits on 5 November 2003, with the first production completed in early December. Total quantity of initial production and shipment was completed 9 February 2004.

A funded requirement for an additional 997 kits is currently in production at Anniston with an estimated completion date of early May. The depot continues to work a 24/7 schedule to support the additional requirements. HMMWV orders to date total 4,670 Armor Survivability Kits with a potential for thousands of additional kits requirements

for HMMWVs as well as other military vehicles. Anniston will continue to support this effort as long as kits are needed.

2-3: Describe in Detail the Process Used to Complete the Evaluation:

The current canvas and fiberglass door configuration on the HMMWVS used in Southwest Asia make them extremely vulnerable to attacks from explosive devices planted near roads by guerilla soldiers in occupied Iraq. U.S. soldiers have died and sustained severe injuries as a result of these attacks.

Realizing the need for added protection, an enlisted man approached his commanding officer and asked if there was not something that could be done to provide the soldiers riding in HMMWVs protection from these daily assaults.

His entreaty was heard all the way to the Commanding General of AMC.

The Army Research Lab at Aberdeen Proving Grounds, Aberdeen, MD, was subsequently given the task for a new design that would meet the requirements and provide the ultimate protection to the troops.

Anniston, through the combined efforts of various production shops and numerous other depot organizations, has met the challenge to complete the initial phase of this project, the completion of the initial 500 kits, while simultaneously sustaining normal production workload.

The highly skilled employees and unique installation capabilities in facilities and equipment are key elements of the organic base's proven reaction time to manufacture this critical requirement for the Global War on Terrorism and OIF.

The Defense Distribution Depot Anniston (DDAA) Transportation Office has supported the depot throughout this effort. They have arranged for dedicated trucks to pick up the kits at the designated location and deliver them to their CONUS point of departure.

Based on the input Anniston provided in the initial design and development stage of the HMMWV Armor Survivability Kit, the Army Research Lab and the Tank-automotive Research Development and Engineering Center (TARDEC) have expressed their appreciation for the expertise and professionalism the depot has shown in supporting our soldiers by providing them the greatest protection available as they put their lives on the line every day.

Anniston has received feedback from some of our troops expressing gratitude for providing support to them by way of this added protection that, for each kit installed, is the potential for lives saved.

Major General N. Ross Thompson III, Commanding General, U.S. Army Tank-automotive-Armaments Command, in praise of Anniston and Rock Island Arsenal's efforts, stated that there is no commercial entity with the skills, flexibility, or price to do what Anniston and Rock Island Arsenal have done on HMMWVS thus far, and what Sierra Army Depot, Watervliet Arsenal, and Red River Army Depot are also capable of doing for our warfighters when called upon. Just as importantly, this is clearly a team effort.

Further, the Chief of Staff of the U.S. Army has stated that he is inspired by the exemplary effort of Anniston to help solve the armor problem for the HMMWVs, which is saving lives every day.

2-4: Identify Significant Challenges Encountered, the Process for Resolution, and the Solutions. Identify any Best Practices Employed or Developed:

Some of the more significant challenges faced by Anniston in this endeavor include:

- Streamlining the supply chain process to compress the life-cycle process from requirements to delivery to 90 days
- Streamlining the production process to compress the procurement and manufacturing setup from 120 days to approximately 30 days.
- Incorporating Engineering Change Proposals (ECPs) during the production phase and periodic changes in the Technical Data Package (TDP). ANAD worked with engineers from the Army Research Lab and the Tank-automotive Research Development and Engineering Center to overcome these obstacles.
- There was no parts explosion available from the federal supply system to support this effort, so Anniston used secondary procurement action such as Local Purchase and fabrication in order to get the necessary parts and material in the timeframe required.
- At the beginning of the program, there were delays in the delivery of material. This effort also spanned the Christmas holiday season. Employee leave schedules, receiving material, and building kits had to be balanced in order to ensure sufficient resources were available to accomplish the mission during this period.
- This was also the first major endeavor Anniston has been associated with that has been coordinated through GSIE with other GSIE installations.

2-5: Identify the Metrics Used to Measure Progress and Success:

- Number of HMMWV Armor Survivability Kits produced to date
- Number of HMMWVs outfitted with the Armor Survivability Kits to date
- Number of lives saved since effort was undertaken
- Compression of normal supply chain process in order to react to the emergency requirement in support of the Global War on Terrorism

2-6: Document and Quantify Cost and Performance Benefits, Including the Project's Return on Investment and Changes in the Value of One or More of the SCOR Level 1 Metrics:

- Supply Chain Delivery Reliability: Requirement to installation of Armor Survivability Kits on HMMWVs in Southwest Asia reduced to less than five months
- Supply Chain Responsiveness: **SOLDIERS LIVES SAVED**

2-7: Outline How the Success of the Organization Supports the Organizations' Objectives Described in Section 1, Item 3:

This effort clearly illustrates Anniston's dedication and primary mission of responsive, highest quality support to the soldier. The depot has had teams in-theatre in support of the Global War on Terrorism and OIF since January 2003, and will continue to seek opportunities to provide the highest level of support as long as requirements exist.

We have exceeded our customers' expectations by providing an immediate response to this urgent requirement, working 24/7 to ensure that our warfighters are given the highest protection available in order to complete their mission while continually striving to keep them out of harm's way!

SECTION 3: KNOWLEDGE TRANSFER

3-1: Describe the Efforts to Share Lessons from this Effort with Other Internal Organizations:

Based on the follow-on program requirements for additional kits to be produced by Anniston, Rock Island Arsenal, and other GSIE organizations, representatives from these installations visited Anniston and Rock Island Arsenal to witness the depots' processes for manufacturing the HMMWV Armor Survivability Kits. The knowledge they gained will be transferred to their individual installations. We shared with these representatives full knowledge of our processes and procedures in the manufacture of the Armor Survivability Kits.

The depot also shared with the other organizations the problems that it had encountered, what worked – what didn't, and recommendations for heading off any stumbling blocks that they might encounter.

ANAD recognizes and is dedicated to sharing their successes and challenges with other team organizations because of the “up close” and “personal” involvement in this critical endeavor.

3-2: Explain How This Initiative can be Transferred to Other Organizations and Specify the Likely Candidates for Transference:

It is Anniston's desire to share the critical success of this effort with other government services as well as private industry through DoD, Army, and commercial conferences, symposiums, and other forums in order to demonstrate the possibility of circumventing the normal supply chain process in order to meet the needs of our soldiers whether in war or peacetime.