

R&D Steering Committee
2009 Project Overview
Remington Facilities

1/09/09

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Agenda

- Present 2009 R&D Project Budget Submission & Deliverables
 - Elizabethtown (Non-DoD)
 - Ilion
- Review Staffing/Manpower Status
- Establish List of Non-Budgeted Projects Backlog
- Review MPAS Draft CAR/1st Release for DAT Stock/Forend Tooling

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CC 38050 (FA) Project Detail

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Resinware

2009 F/A Project Scopes

M/887 Nitro Magnum Synthetic Pump Shotgun (2009)

This is broken up into two forms of activity in 2009.

1. This product is scheduled for introduction at the 2009 SHOT Show. DAT was successfully completed on Dec 12th. Initial focus for T&P product is to supply SHOT show, Press, Sales, and miscellaneous samples for mid January events and then refocus on T&P product build. Production will start immediately after a successful T&P test exit. Some R&D contingency funding (\$7,500) has been added in 2009 with some travel (\$3,600) to help support a successful transition into production.
2. Manufacturing production costs have risen above the original upper target of approximately \$144 per unit. In order to improve the profitability of this new product we will complete development and qualify the one piece barrel which will result in a \$6-\$8 per unit cost savings.

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2009 F/A Project Scopes

R-15 Extreme Hunting Rifle (2009)

This is a joint project between Remington and DPMS to develop a new hunting cartridge and AR-15 platform variant that will perform on par with a .308 Winchester cartridge. E-town will provide test and evaluation resources to support EET and production qualification testing. DPMS is responsible for the gun modifications to handle the new cartridge which is based on the .450 Bushmaster necked down to .30 caliber. Lenohe is responsible for the ammunition development.

MPAS Autoloading Shotgun Support (2010)

The MPAS is a new 12 Ga. autoloading shotgun which is being designed to handle the full breath of ammunition, from light 2 3/4" target loads to the heaviest 3 1/2" magnums utilizing a unique multi-port gas system design, IP which Remington now owns. Although an Ilian funded and managed program, E-town was tasked with development of the fire control and the synthetic stock system and fore-end. Money identified here is for travel to Ilian to continue this support through DAT build and formal DAT testing, which will be done at the E-town facility.

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2009 F/A Project Scopes

New Auto-Loading Rifle (NAR) (2011+)

A new autoloading CF rifle has been in development in E-town for the past three plus years. This project has been through several design iterations and has not advanced beyond the EET stage. The NPP requires a single platform capable of handling short, long, and magnum calibers. The focus up to now has been a single long action caliber (.35-06 SPRG). Funding for 2009 along with appropriate staffing will allow parallel activity to advance all three variants through EET and at least one variant successfully through DAT.

Capital funding at the manufacturing level will be required to bring this product to market, which is targeted for introduction in 2011. Progress in 2009 will likely be impacted due to reassignment of the primary engineering resource to DoD projects starting Jan. 1st 2009. A realignment of available resources for 2009 is needed to minimize impact on 2009 deliverables.

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2009 F/A Project Scopes

R-15/R-25 Synthetic Designs (2010)

The focus of this project is to develop new synthetic stocks and fore-ends for the AR platforms specifically designed for hunting. Deliverables for 2009 will be to develop the CAD 3-D models and rapid prototypes to get the designs approved by Marketing and ready for manufacturing. Capital funding at the manufacturing level will be required to bring these products to market.

M/770 Caliber Addition in .22-250

Marketing has received requests to add this varmint caliber to the M/770 line. An NPP has been with the premise that it would not require any significant development. Recent testing has indicated that changes will be required to the magazine box assembly and potentially the extractor/ejector at the very least to get this cartridge to feed and eject reliably. 2009 funding would support these development efforts and provide resources to complete a small scale DAT to qualify the changes. Plant funding would be required to bring this product through a T&P phase and into production. This is being addressed on a low priority basis.

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2009 F/A Project Scopes

Intrex Interchangeable Barrel Rifle (H&R Project)(2011)

The Intrex program is an H&R project targeted for introduction in 2011, with Elizabethtown resources leading this development effort. The concept is a single shot rifle with interchangeable barrels. The preferred development plan is to start with a new design which will allow cosmetic and differentiated design features to be incorporated separating and differentiating this product from the existing Handi-Rifle line. A less desirable approach would be to utilize the existing platform and develop the means to allow barrel interchangeability by the user without factory fitting. 2009 funding for this program will result in the delivery of two "Proof of Concept" prototypes followed by a 5 gun prototype build and then a 10 gun build for a small scale DAT class test. Based on the recent DoD personnel realignment the initial deliverables for 2009 may be impacted. At this time the deliverable objective of 10 DAT guns may not be attainable due to current resource levels.

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2009 F/A Project Scopes

New Bolt Action CF Rifle (2011+)

Marketing has identified the need for a next generation bolt action centerfire rifle in their 3 year strategic plan. Past activity up to this point has been exploratory only. All major competitors' products have been studied with the goal to establish product features, design goals, functional performance and aesthetics for this product. With the recent enhancements to the M700 line with product variants like the XHR and the new adjustable fire control the timing of this project may be adjusted based on other product needs. For now it is identified as a beyond 2011 introduction. Funding and activity in 2009 would focus on the EET phase only and would consist of 2 iterations, an initial "Proof of Concept" phase consisting of 2 prototypes, followed by a redesign effort and another 5 gun EET evaluation. Funding would support build of these prototypes in addition to ammunition for evaluation. Recent CoD initiatives and the realignment of resources to support these efforts will impact planned activity on this project for most of if not all of 2009.

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2009 F/A Project Scopes

Unspecified Development Projects

This funding is targeted for unidentified project activity. Funding includes project and travel estimates and for now is spread out evenly throughout the year on a monthly basis. A formal approval process will need to be followed to access this funding for any new projects. This process is as yet undefined. Recent lion activity around development of a 1911 pistol and subsequent competitive and development testing planned in E-town may require some of this set aside funding.

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CC 38052 (R&T) Project Detail

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References

2009 R&T Project Scopes

Marlin/H&R Synthetic Component Initiative

E-town will leverage their expertise in synthetic materials to evaluate cost, quality, and functional issues in current Marlin and H&R products. Todd Cook will interact with engineering and manufacturing in both locations to understand opportunities and establish development priorities and then work to offer solutions to identified issues. Funding allocated for this project will be used for testing and generating prototypes parts to aid in this process. Funding to implement solutions at the plant level will be the responsibility of the manufacturing locations.

Marlin/H&R Metallurgical Initiative

This is a parallel project to the one above but will focus on metallurgical components and will be driven by E-town's metallurgist Marlin Jiranek. A secondary goal will be to generate a database of materials used at the various Remington companies with the goal to standardize on these materials used for various classifications of parts (bolt heads, screws, fasteners, gears, etc.). This will aid purchasing departments in material procurement by leveraging greater volume which should result in cost savings and improve material availability.

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2009 R&T Project Scopes

New Generation Recoil Jack Development

Shooting jacks are used extensively at the manufacturing plants and in R&D during product development. They are a significant factor in determining firearm malfunction rates and yet in many cases are the source of misleading functional data, especially in the case of autoloading firearms. The current jacks have been in use for many years and were developed in the early 1900's. Conclusive data has been generated to show that they are not good duplicators of the human shoulder. This project will focus on characterizing gun dynamics as shot from a spectrum of shoulders to determine design parameters. The ultimate goal is to develop an improved shooting jack that better simulates the human shoulder, is adjustable for light and heavy conditions, and is more repeatable and robust. The goal is to generate a working prototype by year end.

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2009 R&T Project Scopes

Shot Material Detector (Ra)

This is a continuation of an existing project which was initiated by the ammunition group. With the recent advances in non-toxic shot such as Wingmaster HD and other non-lead based shotshell products a handheld device is needed in the field by game wardens and other regulatory personnel. Existing devices cannot discriminate between existing materials and can lead to wrong conclusions in the field. Mike Pendleton has studied existing technologies and has developed a design which if proven to work will fill this role, resulting in a potential new product for Remington. This unit has the potential for sales in most states and fills a current need in the waterfowl hunting world and in areas where lead in rifle ammunition has been restricted for big game hunting. Given regulatory trends the need for units such as this will only grow. The goal for 2009 is to build and test 1-2 prototype units to confirm "Proof of Concept".

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2009 R&T Project Scopes

Venom Fire Control

The Venom project is a Research initiative that was a spin off of technology developed during the EtronX program. Remington developed a proprietary fire control system under contract by Combined Systems Inc. (CSI) for a non-lethal launch platform that was designed by CSI for military applications. The system utilizes a Remington EtronX primer to initiate larger projectiles such as smoke bombs, flash bangs, etc. which are propelled at approaching personnel to deter them prior to engagement with lethal hardware. The system is fully developed and 40 units have been made which will undergo field testing in early 2009. If approved an initial order of up to 250 units could follow. Remington would contract out the build of the fire control at a cost of approximately \$300 and sell them to CSI at a 10X markup. It should be mentioned that this entire development was funded by CSI. A small amount of funding is included here for potential travel to continue support of this project.

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2009 Ilion R&D Project Scopes

M/887 Nitro Magnum Synthetic Pump Shotgun(2009)

The 28" black firearm is scheduled for introduction at the 2009 SHOT Show. Full production to begin 2nd quarter 2009.

Five more versions will be introduced throughout 2009:

- 887 Nitro Mag SPS 12/26" guns
- 887 Nitro Mag--SPS Waterfowl 12/28"
- 887 Nitro Mag--SPS CAMO (12/24")
- 887 Nitro Mag Turkey/WF Combo 12/28" & 22"
- 887 Nitro Magnum Tactical (12/18.5")

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2009 Ilion R&D Project Scopes

MPAS (Multi-Port-Autoloading Shotgun)(2010)

The MPAS is a new 12 Ga. autoloading shotgun which is being designed to handle the full breath of ammunition, from light 2 ¼" target loads to the heaviest 3 ½" magnums utilizing a unique multi-port gas system design.

This project is being designed, funded and built in Ilion. E-Town will provide testing and other support.

The Timeline will be finalized in January 2009, tentatively Design Acceptance in April 2009 and Production 1st Quarter 2010.

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2009 Ilion R&D Project Scopes

NPP's (New Product Proposals) Commercial – 2009

These NPPs result from customer requests via the Firearms Marketing group. The Development group completed 96 NPPs in 2008 and would expect to see about the same number in 2009.

NPP's (New Product Proposals) LE/MPD – 2009

These NPPs result from customer requests approved by the LE Firearms Marketing group. The group completed 44 LE NPPs in 2008 and would expect to see about the same number in 2009.

NPP's (New Product Proposals) H&R – 2009

These NPPs result from customer requests approved by the H&R Firearms Marketing group. We received no NPPs in 2008 but would expect to see about 25 in 2009.

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2009 Ilion R&D Project Scopes

Intrex Interchangeable Barrel Rifle (H&R Project)(2011)

The Intrex program is an H&R project targeted for introduction in 2011. Elizabethtown engineering resources will lead this development effort. Production will be in Ilion with development in 2009 and 2010 and production in 2011.

New Auto-Loading Rifle (NAR) (2011)

A new autoloading CF rifle has been in development in E-town. Production will be in Ilion with development in 2009 and 2010 and production in 2011.

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Staffing/Project Assignments

[illegible]

Definitions

Revisiting

Staffing Status

- Elizabethtown
 - Commercial Design Engineering Group – Down 5 heads vs 1/1/08
 - 4 engineers reassigned to DoD development group
 - 1 engineer promoted to Director DoD group
 - R&T Engineering Group - Down 1 vs 1/1/08
 - 1 metallurgist resigned eff. 1/05/09
- Ilion
 - Product Development Engineering Group – Down 2 heads vs 1/1/08
 - 1 engineer reassigned to production
 - 1 engineer promoted to DoD production manager

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Recruiting Status

- Recruiters
 - Identified/contracts under legal review
- Advertising
 - Ads running in targeted geographical areas
1/11/09
 - SHOT Show Booth visibility planned
 - Industry websites
 - Remington website
 - Industry publications being evaluated

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Unfunded Project Backlog

Capture point for unstaffed, unfunded programs for future addition/prioritization

- USA (Unsingle-Autoloading) Target Shotgun
 - External design developed by L. Butler
 - Marketing product evaluation completed
 - Market/Business Plan developed (attached)
 - High Spot economics developed
 - Development proposal received from Butler and reviewed
 - Next step: Meeting with Butler at SHOT to respond (Trull/Dwyer)

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Unfunded Project Backlog

- 1911 Line Extensions/Caliber Additions
 - ~ Direction needed ASAP as to future product plan
- Others??

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MPAS Capital Release

- Authorization required for \$396,000 in capital expense from 2009 budgeted CapEx (\$2.5 MM project total)
- Tooling expenditure for production fore end, overmolded stock and grip cap molds
- Required to finalize functional performance and cosmetic aspects (Post DAT)

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MPAS Metrics

- Current development status – pre-DAT
- DAT scheduled for April '09
- Current project economic metrics (to follow)

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MPAS CAR Metrics

Current Status (1/08/09)

[illegible]

Project Specs/Budget 2009

- Marketing cost objective (Base Unit)
 - \$499/unit, \$516/unit actual (to-date)
- Project Cost (Budget)
 - Operations -\$756,000
 - Capital -\$2,468,000
- Comments
 - Capital estimate includes ~\$262,000 in contingent funds
 - CAR includes ~\$5C/unit in contingent costs

Resinification