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Title: M855A1: Successful Fielding of the Army's New High-Performance Small Caliber Solution

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In September of 2005, the US Army launched a program to develop and field a 5.56mm cartridge to replace the lead-core M855 cartridge. A congressionally mandated initiative, the new round would have to be produced using environmentally compliant materials and address perceived shortcomings observed with current M855 as used in short barreled weapons.

The program team, made up of PM-MAS, ARL, ARDEC, and ATK team members, used iterative Six Sigma process to evaluate over 20 potential projectile designs. After significant test and evaluation, the team advanced a 3-piece, reverse-jacket bullet design incorporating a hardened steel penetrator and a lead-free slug. Ballistic test results for the new M855A1 cartridge show improved performance over M855 at both long and short ranges, and across an array of target sets.

With an effective design in-hand, the program entered a rapid integration and process development phase. Utilizing reconfigured, surplus bullet assembly machines and other existing manufacturing equipment, initial capacity was established to integrate the new round into production at the Lake City Army Ammunition Plant.

On-going Green Ammo efforts at the Lake City plant will increase M855A1 production capacity over the next 2 years. The program is actively working to introduce new, improved performance designs for M856 and M80, as well as a fully green small caliber primer.