U.S. ARMY

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The ASC History Newsletter

*This **MONTH** in military history…*

- **1777:** Patriots learn of increased French support
- **1780:** Benedict Arnold accomplice hanged
- **1835:** 1st shots of the Texas Revolution fired at the Battle of Gonzales
- **1864:** Confederate spy Rose Greenhow dies
- **1873:** US Army hangs four Modoc Indians for the murder of a Civil War hero
- **1881:** Shop C at RIA suffers a $35,000 fire
- **1917:** War Revenue Act passed in US
- **1918:** Germany telegraphs President Wilson seeking armistice
- **1944:** General Eisenhower warns of the risk of "shell shock"
- **1961:** South Vietnam requests a bilateral defense treaty

ASC Poster 870-1

Joint Munitions Command – JMC

The JMC is responsible for the production and sustainment of conventional ammunition for the DoD. The name JMC was assumed in January 2003 to replace the name of the Operations Support Command. Assuming the name JMC was intended to convey the fact that the command at RIA provided critical ammunition support to the DoD. The Army Field Support Command was initially a one-star subordinate to JMC.

In January 2003 other transformation efforts were progressing across the Army. One of those was the concept of creating a munitions life-cycle management command responsible for the entire life cycle of ammunition production to include R&D and acquisition. At the same time the missions of the AFSC were growing in importance during the buildup to OIF and as OIF transitioned into a longer term operation. Ammunition production was seen as more stable for the sustainment phases of OIF. In July 2003 the AFSC was elevated to 2-star rank as an MSC of AMC with JMC as a one-star subordinate. This was seen as a precursor to JMC transitioning into the 2-star munitions life-cycle management command. Between July 2003 and the creation of ASC in Oct 2006, AMC created the Joint Munitions and Lethality Life Cycle Management Command as a MSC to AMC. The JMC constrained its focus to production, storage, maintenance, issue, and demilitarization of ammunition. In October 2006 the JMC became a completely separate entity. While the creation of a munitions LCMC was a final impetus to separate ASC and JMC, the integration of both mission sets into one command produced several issues. These issues had been evident over many years, but had not been resolved no matter what the organizational construct at Rock Island. Both the ammunition and field support missions were so complex that no one staffing arrangement could adequately manage both mission sets under one command structure. The command group and senior staff of the higher command were inevitably drawn to either munitions or field support. No one could properly address the competing demands of both mission sets. In addition, funding streams were primarily munitions related and other field support missions drawing on that funding stream caused problems across the board. The separation of ASC and JMC in October 2006 ensured that JMC's command and staff could completely focus on supplying the right munitions to the soldiers in the field on time and in the right place.

Telodynamic System

Energy supplies have always been important to the Arsenal, especially to the ten stone workshops. When the stone workshops were constructed (1866-1892), electrical power was not yet feasible and a major obstacle to any power supply was the distance between the source of power and the buildings where the power was required. The Arsenal, therefore, devised a concept by which power could be transmitted mechanically from the dam to the arsenal shops. This concept, known as the "telodynamic system," would be economical to install and allow the Arsenal time to develop a more complicated rigid shaft system in future years. Using the telodynamic system to transmit power over a great distance had yet to be tried in the United States. Major Flagler, the 3rd Arsenal Commander, corresponded with several European firms that had manufactured wire-rope and had built telodynamic systems in Germany and other European countries to get a better understanding of how to properly construct a telodynamic system. Beginning in 1874, Major Flagler had all gear work and shafting for the power system manufactured at Rock Island Arsenal's foundry and shops, and in conjunction with the power system, Major Flagler ordered metal to produce the castings needed for the power system. The telodynamic system was installed in 1878, and the first use of Arsenal water power in the shops occurred in February 1879.

The telodynamic system mechanically transmitted power to the Arsenal shops by using water, which passed through openings at the dam, to rotate turbines. The rotation of the turbines was transferred through gears which, in turn, rotated a large drive wheel. This wheel, fifteen feet in diameter, functioned as a large drive pulley from its location inside a power house adjacent to the dam. An endless cable loop extended from this ground station northward along First Avenue to a pulley at the top of a tower. From there, wire-cables, one inch in diameter, formed loops which turned additional elevated wheels at the rear of the shop buildings situated south of Rodman Avenue. Long main drive shafts ran just below the ceilings of each shop area, constantly rotating when the telodynamic system was activated. Individual machines were powered by engaging a clutch drive belt connected to the overhead shaft. By 1890, the combination of wire-cable and rigid shafting to generate power was inefficient and obsolete. The Arsenal's makeshift arrangement, at best, provided only limited power to a portion of the Arsenal shops.

All the shops that comprised Arsenal Row on the south side of Rodman Avenue, with the exception of Shop A (102), had access to the power carried by the telodynamic system. However, only Shops C and E (Bldgs. 104 and 106) actually received power from the wire cable and tower arrangement. Power failures occurred frequently due to friction which jammed the shafts; and at times, due to cables which snapped or developed too much slack. Also by 1890, technology in the transmission of power had advanced to such a degree that it became feasible to update the Rock Island power system. While the telodynamic system did not provide the energy supply required for the Arsenal at the beginning of the twentieth century, the system remains an engineering marvel and a unique aspect of the development of a national arsenal.