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Defense Primer: Conventional Ammunition Production Industrial Base

The *conventional ammunition production industrial base* is a collective term for the Department of Defense (DOD) industrial facilities that produce conventional ammunition, propellants, and explosives for use by the U.S. military. Such munitions include small (.50 caliber and below), medium (20 mm to 40 mm), and large (50 mm to 155 mm) caliber ammunition; propellants for direct fire, indirect fire, and rocket applications; and a variety of explosives. This manufacturing capability primarily resides in five government-owned, contractor-operated (GOCO) U.S. Army Ammunition Plants (AAPs), with the Army providing management and oversight on behalf of DOD.

Background and Overview

The modern ammunition production base dates to World War I, when the War Industries Board sponsored a rapid buildup of government and contractor production facilities to meet wartime ammunition needs. A similar industrial mobilization occurred during World War II, leaving the United States with 86 ammunition plants by 1945. During the Cold War, this number dwindled as stockpiles grew and production processes became more efficient. In 1975, DOD also consolidated management of ammunition production by designating the Secretary of the Army as the Single Manager for Conventional Ammunition (SMCA).

Today, the five GOCO plants supply the military with most of its conventional ammunition, propellants, and explosives. In addition, other sites within the broader Army organic industrial base perform certain ammunition-related industrial functions (see **Figure 1**).

GOCO Ammunition Plants

The Iowa Army Ammunition Plant (AAP), Lake City AAP, Radford AAP, Holston AAP, and Scranton AAP are the Army’s five GOCO ammunition plants. Two major contractual arrangements govern each plant—a facility operation and maintenance contract that sets the terms of contractor operation, and a production contract that sets the terms of DOD ammunition sourcing. In addition to the contractor workforce, each plant has a small staff of military personnel and government civilians providing management oversight.

Iowa AAP

Established in 1940, Iowa AAP consists of about 640 buildings on approximately 19,000 acres in Middletown, IA. The plant primarily produces large and medium caliber ammunition, mortars, mines, missile warheads, and other explosives, and has been operated by American Ordnance LLC since 2008. In 2022, on-site staff consisted of one military officer, 21 government civilians, and approximately 980 contractors.

Lake City AAP

Established in 1940, Lake City AAP consists of about 330 buildings on approximately 3,900 acres in Independence, MO. The plant primarily produces small caliber ammunition, cartridges, and related components (e.g., percussion, electric primers), and has been operated by Olin Winchester since 2019. In 2022, on-site staff consisted of 1 military officer, 33 government civilians, and approximately 1,890 contractors.

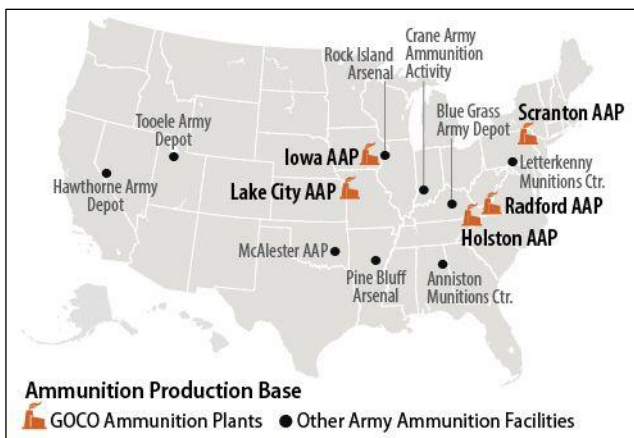
Radford AAP

Established in 1941, Radford AAP consists of about 1,040 buildings on approximately 6,800 acres, split into two sites: the Radford manufacturing unit (4,000 acres) near Radford, VA, and the New River storage unit (2,800 acres) near Dublin, VA. The plant primarily produces propellants and explosive munitions, and has been operated by BAE Systems Ordnance Systems, Inc. since 2011. In 2022, on-site staff consisted of 1 military officer, 23 government civilians, and approximately 1,000 contractors.

Holston AAP

Established in 1942, Holston AAP consists of about 500 buildings on approximately 5,900 acres in Kingsport, TN. The plant primarily develops, tests, and manufactures various high explosive composite mixtures, and has been operated by BAE Systems Ordnance Systems since 1998. In 2022, on-site staff consisted of 1 military officer, 21 government civilians, and approximately 980 contractors.

Figure 1. Ammunition Production Base
Conventional Ammunition Industrial Facilities



Source: CRS Analysis of Joint Munitions Command data.

Scranton AAP

Established in 1953, Scranton AAP consists of nine buildings on 15 acres in Scranton, PA. The plant primarily produces non-explosive projectile components for artillery and mortars, and has been operated by General Dynamics Ordnance and Tactical Systems since 2006. In 2022, on-site staff consisted of 8 government civilians and approximately 285 contractors.

Other Army Ammunition Facilities

In addition to the five GOCO ammunition plants, the Army operates industrial sites to support the development, manufacture, modification, storage, distribution, and demilitarization of ammunition. These include:

- **Letterkenny Munitions Center** in Chambersburg, PA (ammunition distribution and demilitarization, guided munitions maintenance).
- **Anniston Munitions Center** in Anniston, AL (ammunition storage, renovation, and demilitarization).
- **Pine Bluff Arsenal** in Pine Bluff, AR (specialized ammunition production, including illuminating, infrared, phosphorus, and smoke munitions).
- **Rock Island Arsenal** in Rock Island, IL (headquarters of Joint Munitions Command; cartridge case production at the Quad City Cartridge Case Facility).
- **Crane Army Ammunition Activity** in Crane, IN (ammunition production, storage, distribution, modification, and demilitarization).
- **McAlester Army Ammunition Plant** in McAlester, OK (ammunition storage and maintenance).
- **Blue Grass Army Depot** in Richmond, KY (ammunition storage, renovation, distribution, and demilitarization).
- **Tooele Army Depot** in Tooele, UT (ammunition storage, maintenance, distribution, and demilitarization; production of Ammunition Peculiar Equipment).
- **Hawthorne Army Depot** in Hawthorne, NV (ammunition storage, maintenance, and demilitarization).

Resourcing, Management, and Oversight

Congress funds Army, Air Force, Navy, and Marine Corps ammunition procurement activities through the Procurement of Ammunition account within the annual National Defense Authorization Act (NDAA) and defense appropriations legislation. In FY2022, Congress appropriated approximately \$3.8 billion for ammunition procurement, including \$588 million for investments in industrial facilities.

Multiple Army organizations provide management and oversight of the ammunition production base. The Secretary of the Army (SECARMY) is responsible for the DOD-wide SMCA mission, which encompasses 15 broad ammunition-related functions (detailed in DOD Instruction 5160.68). SECARMY has delegated SMCA policymaking and oversight responsibilities to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)); within ASA(ALT), Joint Program Executive

Office Armaments and Ammunition (JPEO A&A) manages funding and sets broad acquisition strategies. Two subordinate commands of Army Materiel Command (AMC) handle day-to-day execution of the SMCA mission: Joint Munitions Command (JMC) oversees the GOCO plants and other ammunition base sites, while Army Contracting Command (ACC) handles contract solicitations, awards, and administration.

In addition, Army Futures Command (AFC) conducts research and development and provides engineering support for ammunition production through its Combat Capabilities Development Command Armaments Center.

Considerations for Congress

Facilities and equipment modernization. The age and condition of ammunition production facilities, many of which were built during or before World War II, has led to DOD and congressional concern over associated production and safety issues. To modernize these and other organic industrial base (OIB) sites, the Army has developed a three-phase plan to invest \$16 billion into OIB modernization from FY2024 through FY2038. The House Armed Services Committee report for the House-passed FY2023 NDAA (H.Rept. 117-397) expressed support for this plan, and Congress may review Army prioritization of investments, oversee implementation, and consider future appropriations.

Supply chain security. Certain elements of ammunition production use raw materials originating from outside the United States, creating potential supply issues. As an example, the current lack of a domestic source for antimony—used to harden lead alloys for bullets—has prompted congressional concern (particularly as China and Russia produce over 75% of global supply). Congress may review relevant supply chain risks and consider directing DOD to stockpile materials of concern and incentivize domestic production of critical materials.

Mitigating potential ammunition shortfalls. In response to Russia's 2022 war in Ukraine, the United States has provided the Ukrainian military with significant amounts of ammunition from its domestic reserves. Congress appropriated \$540 million to increase ammunition plant capacity in support of security assistance to Ukraine in September 2022, and may continue investments to meet sustained increases in demand. Congress may also direct DOD to continue identifying ammunition shortfalls, readiness impacts, and mitigation strategies.

Army management practices. A 2022 Government Accountability Office (GAO) report found that complex organizational relationships and outdated policy documents “can hinder effective coordination [and] lead to poor or delayed decision-making” among the multiple Army organizations responsible for the ammunition production base. Congress may consider whether or not to direct the Army to revise its management framework to establish clearer roles and responsibilities for ASA (ALT), JPEO A&A, JMC, ACC, and AFC.

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