

FACT SHEET: National Security Importance of U.S. Enrichment Capability

The shutdown of the Paducah Gaseous Diffusion Plant for economic reasons in 2013 left the United States without any industrial scale domestic uranium enrichment capability for the first time since the Manhattan Project. Restoring this capability is important to America's national and energy security for four reasons:

- 1) **Maintaining the nuclear deterrent.** A domestic enrichment capability is needed to produce tritium, a critical component of nuclear weapons that decays within 12 years and must be replenished to ensure the continued effectiveness of America's nuclear deterrent. The American Centrifuge technology is the only viable U.S. technology capable of meeting U.S. national security needs for enriched uranium. (Long-standing U.S. policy and international treaties prohibit the use of foreign technology for national security purposes.) Even if existing tritium supplies can be extended, it is more cost-effective in the long run to preserve a national security capability than to lose the workforce and facilities and attempt to rebuild both some years later from scratch.
- 2) **Meeting the long-term fuel needs of the U.S. Navy.** The entire U.S. fleet of aircraft carriers and submarines – a cornerstone of America's force projection and survivable deterrent -- are powered by highly-enriched uranium that was produced in a U.S. enrichment plant that closed in 1992. While America's existing stockpile of highly-enriched uranium from the Cold War is sufficient to meet the U.S. Navy's anticipated needs for several decades, ultimately we will need more to power our carriers and submarines. Additional naval reactor fuel could also be needed earlier (or perhaps later) than currently projected -- depending on the future size of the U.S. Navy and the to-be-determined power requirements of the next generation of ships with high energy lasers and other advanced weapons systems.
- 3) **Reducing the danger of nuclear proliferation.** For decades, American leadership in uranium enrichment gave the U.S. government global influence as a major supplier of reactor fuel for countries around the world. This enabled the United States to require the strongest nonproliferation safeguards as a condition of long-term peaceful nuclear cooperation. Unfortunately, U.S. dominance in the market has been eroding since the late 1970s.¹ As other nations developed and deployed centrifuge technology, the United States abandoned plans for a new centrifuge enrichment plant in the 1980s and did not replace its aging, increasingly uneconomical Cold War enrichment plants – the last of which was closed in 2013.

Today, foreign enrichment suppliers dominate the global enrichment market. Restoring U.S. enrichment capabilities will help maintain a strong U.S. voice in the global norms governing nonproliferation and support strong nonproliferation standards for decades to come.

- 4) **Strengthening U.S. energy security.** Nearly 20% of America's electricity comes from nuclear power. Restoring American enrichment capability will support the security, diversity, and price competitive fuel supplies that U.S. utilities require.

¹ The only enrichment plant physically located in the U.S. is foreign owned and uses foreign technology. Counting that facility, U.S. enrichment capacity has fallen by 86% since the 1980s.