

# 2020 Savannah River Site Plutonium Inventory Update

The inventory of surplus plutonium managed by the K-Area Materials Storage (KAMS) facility at the Savannah River Site (SRS) was approximately 11.5 metric tons (MT) at the end of FY 2019.<sup>1</sup> The KAMS inventory contains ~3.7 MT of fuel-grade plutonium (approximately one-third of the inventory) and ~7.9 MT of weapon-grade plutonium (approximately two-thirds of the inventory) as shown in Figure 1.<sup>2</sup>

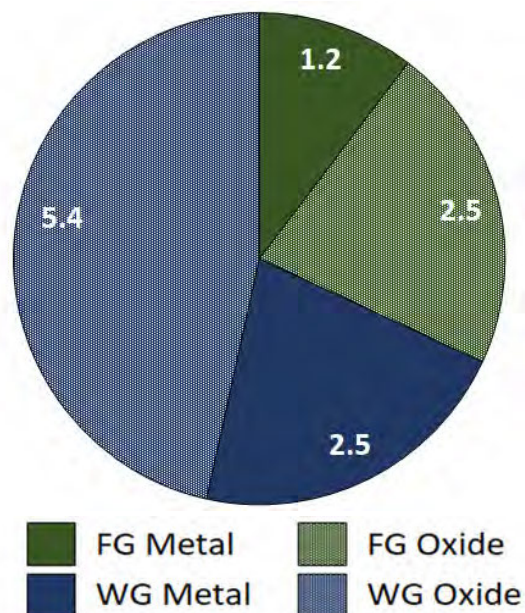
Under the MOX law, the Department of Energy (DOE) is required to remove an amount of surplus plutonium equivalent to the amount that was brought into the State of South Carolina (SC) after April of 2002. This amount is approximately 10.5 MT. In FY 2019, the Department of Energy (DOE) completed removal of 1 MT of plutonium by transferring this material to other DOE facilities. As a result, approximately 9.5 MT of surplus plutonium inventory, that is subject to the terms of the MOX law, remained in KAMS at the end of FY 2019.

The surplus plutonium materials stored in KAMS include a wide range of plutonium-bearing materials with various chemical and radiological impurities, material forms, and plutonium isotopes. These variations create complexities in the rate at which disposition activities (i.e., downblending) are performed and present operational challenges when handled (i.e., radiation dose to workers) that must be addressed to achieve the NNSA plutonium disposition objectives.

In keeping with U.S. international nuclear safeguards commitments, approximately 2.8 MT of the KAMS plutonium inventory remains under International Atomic Energy Agency (IAEA) safeguards. This material is included in the inventory.

The KAMS inventory also includes approximately 0.7 MT of unirradiated mixed oxide fuel which contains fuel-grade plutonium and is stored in Type B shipping casks. The Department is evaluating alternative approaches for processing of this fuel-grade plutonium material which significantly reduces handling time and the associated worker radiation dose for removal from SC and final disposition.

**Figure 1. Breakdown of KAMS Surplus Plutonium Inventory**



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CONTROLLED NUCLEAR INFORMATION~~  
Reviewing Official: C. R. Dyer, Sr. QA Specialist, 3/11/2020

<sup>1</sup> Note: This inventory data is current as of September 2019.

<sup>2</sup> Note: Inventory breakdown does not sum to 11.5 MT based on rounding of inventory values.