

# Virginia Department of Health License for Depleted Uranium at Radford Army Ammunition Plant

## BACKGROUND:

The Virginia Department of Health (VDH) issued an approval for Alliant Techsystems Operations (ATK) at the Radford Army Ammunition Plant for the processing, handling and storage of depleted uranium. ATK first applied for a radioactive material license in June, 2009 and the license was issued on May 20, 2010. The license was renewed on July 24, 2015 and has an expiration date of May 31, 2020. ATK is authorized under VDH's radioactive material license to possess depleted uranium for the purpose of processing PGU-14 projectiles. The license does not authorize the manufacture or production of depleted uranium.

## WHAT IS DEPLETED URANIUM?

Depleted uranium (DU) is a by-product of the uranium enrichment process, which contains proportionally less of the fissionable uranium isotope U235, and more of the isotope U238 than natural uranium. As a material it is highly dense and pyrophoric, meaning that it has an incendiary effect upon impact. This effect can generate an aerosol of micron and sub-micron particles that can spread between tens and hundreds of meters from the detonation area.

## CURRENT STATUS:

While licensed to do so, ATK has not, to VDH's knowledge, received any DU to date and is not reprocessing DU under their license at this time.



The following questions were recently submitted to state health officials pertinent to this approval and their written response is provided.

- 1. Could you please describe the conditions of this approval such as types and quantities of materials, allowed activities, prohibited activities, conditions to protect human health and the environment, conditions to protect workers, reporting requirements, etc.?**

*Alliant Techsystems Operations, LLC is approved for the possession and use of up to 200,000 kg of DU for the processing of PGU-14 projectiles, which are made from DU.*

- 2. How is "processing" defined in this approval?**

*Processing means receiving PGU-14 projectiles (bullets) and performing inspections, loading and shipping.*

- 3. What are the potential health risks associated with activities conducted under this approval?**

*Potential health risks are excessive radiation exposure and internal contamination. ATK is required to perform daily radiation surveys and weekly contamination wipes, and personnel are required to wear dosimetry badges to record dose received. The licensee is required to*

*document and review these results, and VDH conducts a review of the records during licensee inspections.*

**4. Did Radford Army Ammunition Plant and/or its contractors and/or subcontractors and/or other onsite entity apply for and/or receive an approval from the NRC prior to 2010?**

*No, they first applied in June of 2009 after Virginia became an agreement state and renewed their license in 2015.*

**5. In addition to DU, what are the other components of the munitions pertinent to this approval? For example, propellants or explosives?**

*VDH's Radioactive Materials Program only approves the use of radioactive material. VDH's Radioactive Materials Program does not regulate the use of propellants or explosives.*

**6. How will proof of performance be accomplished?**

*VDH's Radioactive Materials Program is required to perform unannounced routine inspections to verify procedures are being followed for the safe use of DU.*

**7. How will unsatisfactory items be managed?**

*If violations are found, licensees will be cited and required to provide corrective actions for review, approval and subsequent inspection.*

**8. What contingencies and safety plans are in place in the event of an emergency such as a fire?**

*Emergency procedures were submitted with their application that have been reviewed and approved by VDH.*

**QUESTIONS** concerning the Virginia Department of Health's approval for Alliant Techsystems Operations at the Radford Army Ammunition Plant for the processing, handling and storage of depleted uranium may be directed to:

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