

Why GAO Did This Study

From the start of military operations in Afghanistan and Iraq, the U.S. military and its contractors have burned solid waste in open burn pits on or near military bases. According to the Department of Defense (DOD), burn pit emissions can potentially harm human health. U.S. Central Command (CENTCOM) guidance directs the military's use of burn pits, and the Department of Veterans' Affairs (VA) provides healthcare and other benefits to veterans and their families.

GAO was asked to report on the (1) extent of open pit burning in Afghanistan and Iraq, and whether the military has followed its guidance; (2) alternatives to burn pits, and whether the military has examined them; and (3) extent of efforts to monitor air quality and potential health impacts.

GAO visited four burn pits in Iraq, reviewed DOD data on burn pits, and consulted DOD and VA officials and other experts. GAO was unable to visit burn pits in Afghanistan.

What GAO Recommends

Among other things, GAO recommends that the Secretary of Defense improve DOD's adherence to relevant guidance on burn pit operations and waste management, and analyze alternatives to its current practices. In commenting on a draft of this report, DOD said that it concurred with five of the six recommendations and partially concurred with the sixth. GAO addressed a DOD suggestion to clarify the sixth recommendation. VA reviewed the draft report and had no comments.

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AFGHANISTAN AND IRAQ

DOD Should Improve Adherence to Its Guidance on Open Pit Burning and Solid Waste Management

What GAO Found

The military has relied heavily on open pit burning in both conflicts, and operators of burn pits have not always followed relevant guidance to protect servicemembers from exposure to harmful emissions. According to DOD, U.S. military operations in Afghanistan and Iraq generate about 10 pounds of solid waste per soldier each day. The military has relied on open pit burning to dispose of this waste mainly because of its expedience. In August 2010, CENTCOM estimated there were 251 burn pits in Afghanistan and 22 in Iraq. CENTCOM officials said the number of burn pits is increasing in Afghanistan and decreasing in Iraq, which reflects U.S. troop reallocations and efforts to install waste incinerators. Despite its reliance on burn pits, CENTCOM did not issue comprehensive burn pit guidance until 2009. Furthermore, to varying degrees, operators of burn pits at four bases GAO visited in Iraq were not complying with key elements of this guidance, such as restrictions on the burning of items, including plastic, that produce harmful emissions. DOD officials also said that, from the start of each conflict, operators routinely burned items that are now prohibited. The continued burning of prohibited items has resulted from a number of factors, including the constraints of combat operations, resource limitations, and contracts with burn pit operators that do not reflect current guidance.

Waste management alternatives could decrease the reliance on and exposure to burn pits, but DOD has been slow to implement alternatives or fully evaluate their benefits and costs, such as avoided future costs of potential health effects. Various DOD guidance documents discourage long-term use of burn pits, encourage the use of incinerators and landfills, or encourage waste minimization such as source reduction. DOD has installed 39 solid waste incinerators in Iraq and 20 in Afghanistan, and plans to install additional incinerators in Afghanistan. To date, source reduction practices have not been widely implemented in either country and recycling consists primarily of large scrap metals. DOD plans to increase recycling at its bases in Iraq, but recycling at bases in Afghanistan has been limited. Further, DOD has not fully analyzed its waste stream in either country and lacks the information to decrease the toxicity of its waste stream and enhance waste minimization.

U.S. Forces in Afghanistan and Iraq do not sample or monitor burn pit emissions as provided by a key CENTCOM regulation, and the health impacts of burn pit exposure on individuals are not well understood, partly because the military does not collect required data on emissions or exposures from burn pits. Army public health officials have, however, sampled the ambient air at bases in each conflict and found high levels of particle pollution that causes health problems but is not unique to burn pits. These officials identified logistical and other challenges in monitoring burn pit emissions, and U.S. Forces have yet to establish pollutant monitoring systems. DOD and VA have commissioned studies to enhance their understanding of burn pit emissions, but the lack of data on emissions specific to burn pits and related exposures limit efforts to characterize potential health impacts on service personnel, contractors, and host-country nationals.