

### Waste Audit Case Collection Form

Name of SAI	United States Government Accountability Office	
Title of audit	Waste Management: DOD Has Generally Addressed Legislative Requirements on the Use of Burn Pits but Needs to Fully Assess Health Effects	
Publishing year	2016	
What risks/policy areas did the audit approach?	Since the initiation of U.S. military operations in Afghanistan in 2001 and Iraq in 2003, the Department of Defense (DOD) has employed several methods to dispose of the waste that U.S. forces have generated in both countries. Burn pits are one of the options available to manage waste, but they also produce smoke and harmful emissions that military and other health professionals believe may result in acute and chronic health effects for those exposed to the emissions.	
Main audit questions and corresponding criteria	<b>Audit questions:</b>	<b>Criteria:</b>
	1. Evaluate the extent to which DOD’s March 2016 report addresses the elements required in section 313 of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2015.	Requirements in section 313 of the NDAA
	2. Evaluate the extent to which DOD, to include the combatant commands, issued guidance for burn pit use that addresses applicable legislative requirements.	Legislative requirements
	3. Evaluate the extent to which DOD has assessed any health risks of burn pit use.	DOD Instruction
What were the data sources and how was data analysed?	To evaluate the extent to which DOD’s March 2016 report addresses the elements required in section 313 of NDAA for Fiscal Year 2015, we reviewed the methodology DOD used to create the report and analyzed the content of DOD’s report to determine the extent to which it addresses each of seven elements required in section 313. We also interviewed knowledgeable officials about compiling information for the report and the methodology used to develop the report, including individuals within the Office of the Secretary of Defense; overseas geographic Combatant Commands, including U.S. Central Command (CENTCOM), U.S. Africa Command, U.S. European Command, U.S. Pacific Command, and U.S. Southern Command; service component commands, including U.S. Army Central Command and U.S. Air Force Central Command; and the Joint Staff. Two GAO analysts independently reviewed DOD’s report and compared its contents with each element required by section 313. The analysts categorized each of the reporting requirements as one of the following: (1) “addressed,” if our assessment showed that the information reported by DOD fully addresses the element required by section 313 of the NDAA for Fiscal Year 2015; (2) “partially addressed,” if our assessment showed that additional information is needed to fully address the reporting requirement; or (3) “not addressed,” if our assessment showed that DOD did not report any information related to the reporting requirement. The two analysts created a final assessment that	

	<p>reconciles their two independent assessments and reflects the analysts' consensus. In the case of any conflicting determinations, a GAO staff attorney adjudicated the difference.</p> <p>To determine the extent to which DOD, to include combatant commands, issued guidance for burn pit use that addresses applicable statutory requirements,<sup>5</sup> we gathered and assessed information regarding DOD's policies on the disposal of waste, including DOD Instruction 4715.19 and DOD Instruction 4715.22. In addition, we identified any policies and procedures that the overseas combatant commands have in place to implement DOD guidance. We discussed the implementation of CENTCOM's policies and procedures with officials from CENTCOM and U.S. Army Central Command. We also contacted U.S. Africa Command, U.S. European Command, U.S. Pacific Command, and U.S. Southern Command to obtain information on their use of burn pits and relevant guidance they have developed. We did not contact U.S. Northern Command because it was not in the scope of DOD's report. We then evaluated the policies, procedures, and actions identified against relevant DOD guidance and applicable law, including section 313 of the NDAA for Fiscal Year 2015 and section 317 of the NDAA for Fiscal Year 2010. We were not able to verify the extent to which burn pits are used, but instead relied on the information officials provided.</p> <p>To evaluate the extent to which DOD has assessed any health effects of burn pit use, we reviewed relevant health assessments on the effects of burn pits, including a 2011 report by the Institute of Medicine that was contracted by the Department of Veterans Affairs, as well as prior related reports by GAO and the Special Inspector General for Afghanistan Reconstruction. We also interviewed officials from U.S. Central Command, U.S. Army Central Command, U.S. Air Force Central Command, Department of Veterans Affairs, and Institute of Medicine to discuss any effects of exposures to burn pit emissions, among other things.</p>
<p>Conclusions and main recommendations</p>	<p>For over three decades, DOD has understood that disposing of waste in burn pits poses health hazards. In light of its experience in Iraq and Afghanistan, CENTCOM has taken steps to reduce burn pit use in its area of responsibility through the use of alternative methods of waste disposal, such as incinerators. However, DOD likely cannot completely eliminate the need for burn pits in future contingency operations. Although CENTCOM has specific policies and procedures for burn pit operations in its area of responsibility, other geographic commands do not, potentially leaving them ill-prepared to plan for and to safely and effectively manage burn pits in the event of contingency operations in their respective geographic regions. Moreover, although DOD and the Department of Veterans Affairs have commissioned studies to enhance their understanding of airborne hazards during deployments, given that DOD may have to use burn pits in future contingency operations, as allowed under current policies, ensuring that research efforts specifically examine the relationship between direct, individual exposure to burn pit emissions and long-term health issues could help improve the understanding and potentially minimize risks related to such exposure.</p> <p>Recommendations:</p> <p>To better position combatant commanders to implement the requirements of DOD Instruction 4715.19 if burn pits become necessary and to assist in</p>

	<p>planning for waste disposal in future military operations, we recommend that the Secretary of Defense direct the combatant commanders of U.S. Africa Command, U.S. European Command, U.S. Pacific Command, and U.S. Southern Command to establish implementation policies and procedures for waste management. Such policies and procedures should include, as applicable, specific organizations within each combatant command with responsibility for ensuring compliance with relevant policies and procedures, including burn pit notification, and, when appropriate, monitoring and reporting on the use of burn pits.</p> <p>To better understand the long-term health effects of exposure to the disposal of covered waste in burn pits, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to take the following two actions:</p> <ul style="list-style-type: none"> <li>• Take steps to ensure CENTCOM and other geographic combatant commands, as appropriate, establish processes to consistently monitor burn pit emissions for unacceptable exposures.</li> <li>• In coordination with the Secretary of Veterans Affairs, specifically examine the relationship between direct, individual, burn pit exposure and potential long-term health-related issues. As part of that examination, consider the results of the National Academies of Sciences, Engineering, and Medicine’s report on the Department of Veteran Affairs registry and the methodology outlined in the 2011 Institute of Medicine study that suggests the need to evaluate the health status of service members from their time of deployment over many years to determine their incidence of chronic disease, with particular attention to the collection of data at the individual level, including the means by which that data is obtained.</li> </ul>					
<p>Which of the following aspects are covered in the audit and you can provide case?</p> <p>(select all that apply)</p>	<p>Sustainable Development Goals, International Conventions, EU Directives related to waste management</p>	<p>National legal instruments (description of instruments, weakness in legislation and regulation, incoherence of acts)</p>	<p>Economic Incentives in waste management (i.e. charges, taxes, subsidies)</p>	<p>Mapping out the actors of waste management and their responsibilities</p>	<p>Methods of collecting and analysing data</p>	<p>Cooperative audit</p>
	<p>No</p>	<p>No</p>	<p>No</p>	<p>No</p>	<p>Yes</p>	<p>No</p>
<p>Challenges and risks</p>	<p>As described above, GAO took steps to have two auditors independently determine whether DOD had addressed, partially addressed, or not addressed the reporting requirements. The two analysts then created a final assessment to reconcile their two independent assessments and reflect the analysts’ consensus. In the case of any conflicting determinations, a GAO staff attorney adjudicated the difference.</p>					
<p>Link to audit report</p>	<p><a href="https://www.gao.gov/products/GAO-16-781">https://www.gao.gov/products/GAO-16-781</a></p>					

## Specifying questions and comments

### Question:

Can you describe in more specifically the problem which is related/caused by burning waste? What type of waste has been burned, what are the consequences of this activity?

### Answer:

- The U.S. Department of Defense has recognized that burning waste in open pits poses environmental and health hazards. While burn pits help base commanders manage waste generated by U.S. forces overseas, they also produce smoke and harmful emissions that military and other health professionals believe may result in acute and chronic health effects for those exposed. In another report, GAO-11-63, GAO found that some veterans returning from the Iraq and Afghanistan conflicts have reported pulmonary and respiratory ailments, among other health concerns, that they attribute to burn pit emissions.”
  - o For further explanation and from GAO-11-63: Particulate matter includes coarse particles between 2.5 and 10 micrometers in diameter, as well as fine particles smaller than 2.5 micrometers. Particle pollution may contain a number of components, including acids, organic chemicals, metals, and soil or dust particles, according to the Environmental Protection Agency (EPA). The size of particles is directly linked to their potential for causing health problems. Both coarse and fine particles pass through the throat and nose and enter the lungs. Fine particles can also become deeply embedded in lung tissue. Health problems associated with particle pollution identified by EPA include irritation of the airways, coughing, or difficulty breathing; decreased lung function; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. According to DOD, sources of particulate matter include dust storms, dust from vehicle disturbance of the desert floor, emissions from local industries, and open pit burning conducted by Afghans, Iraqis, and American troops.
- According to DOD regulation, “burnable solid waste” is non-hazardous waste from a dining facility, logistical support areas, motor pool, and/or other non-hazardous waste source on a base camp that can be safely burned to reduce its volume. In addition, under certain circumstances, disposed waste may include covered waste, including certain types of hazardous waste, medical waste, and items such as tires, treated wood, and batteries.

### Question:

Can you share experience related with audit methodology - did you identify any risks regarding data and how did you overcome them?

### Answer:

We were not able to verify the extent to which burn pits were used, but instead relied on the information officials provided. We spoke with multiple officials to corroborate the information we were hearing and collected related documentation.