

Just the Facts...

A Commander's Guide to Medical Concerns Regarding Use of Burn Pits to Dispose of Solid Waste, December 2009

This document recommends that Commanders use all means feasible to minimize if not end the use of open burning/burn pits to dispose of the solid waste generated at base camps.

Base camp or installation Commanders are responsible for the overall operations of the base camps they command. This includes solid waste management and disposal including burn pit operations. Concerns about exposure to smoke from burn pit operations have intensified in recent years, both detracting from limited public health resources and diverting focus from the military mission, and negatively impacting the Army's commitment to Force Health Protection.

While solid waste disposal through burn pit operations are necessary due to limited options when base camps are first established, they are undesirable long term solutions. The irritating nature of the smoke and the perceptions that long-term health may be affected by this exposure must be factored into the decision-making process. While DOD's medical authorities have not definitively identified any specific long-term health consequences to date, proving or disproving a potential association between burn pit exposures and a long-term health outcome or disease is extremely difficult. This is due to the inherent limitations in the science, data collection and analytical methods, variable site conditions and individual health susceptibilities.



As the individual responsible for authorizing the solid waste disposal operations at a base camp, a Commander should consider these additional factors. This will accomplish the military mission while minimizing concerns.

Background and Rationale – The Health Concerns and Perception Are a Reality:

- Open burning of solid waste, particularly in burn pits has generated medical complaints and health concerns among Service Members since 2003. In the last year, these concerns rose to the highest levels of media and Congressional attention to date, primarily due to the belief that there are potential long-term health implications associated with the air quality at sites that conduct burn pit operations. A few examples include a Congressional press conference presentation “‘Dangerous Health Effects from Waste Burning and Inhalation, (June 09)” an Army Times article, “Burn pits 'very dangerous' say 'appalled' epidemiologist (20 July 09),” and a Navy Times article “Burn pits provoked concerns from the start health official says (27 Aug 09).” Concerns include significant questioning of the military's reliance on burn pits when they are reported to generate known health complaints and the controversial claims regarding long term health implications.
- As waste streams can be highly variable, investigating this concern is difficult. Real-time medical complaints (coughing, eye and respiratory tract irritation, aggravation of respiratory conditions) are often correlated with post-deployment medical concerns arising from deployment to sites with large burn pit operations. Requests for epidemiological studies, registries, and other measures have been surfacing from a variety of sources.
- In addition, the negative perceptions created by odors and dark irritating smoke around life support areas (LSAs) are a reality for those who attribute a variety of health outcomes to burn pit use. Perception factors identified through social science research are known to contribute to individual attribution and assessment of risk (for example, trust in decision-makers, individual control of the risk (e.g., higher perceived risks from diffuse burn pit smoke vs. concentrated cigarette smoke), familiarity with the science).
- Due to the combination of medical complaints and perceptions about burn pit smoke exposure, the number of personnel and healthcare providers identifying post-deployment health concerns pertaining to burn pit smoke exposures is increasing rapidly. Various organizations to include DOD's Office of the Assistant Secretary of Defense (Health Affairs), Service Surgeons and the Department of Veterans Affairs are working to address the growing complaints, media reports/articles, and Congressional queries in order to help mitigate direct impacts on base commanders and field operations while maintaining the health of our Service members.

If you have questions, concerns, or any would like additional information regarding this document please contact:

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Air Quality Monitoring and Evaluation – Not the Solution:

- Preventive medicine assets, in conjunction with reach-back support from Service health surveillance centers such as the U.S. Air Force School of Aerospace Medicine and the U.S. Army Public Health Command (formerly USACHPPM), have obtained and evaluated environmental air quality data including the largest burn pit at Joint Base Balad. Although no specific long-term health outcomes/disease risk has been identified at this time, the military is continuing to collect and evaluate environmental data to try and fill data gaps/ uncertainties. Additionally, epidemiological studies are ongoing. Partnerships have been established with civilian experts to ensure the most comprehensive and validated approach possible.
- Despite these continued efforts to monitor and better understand air quality conditions at burn pit locations, there will still be scientific limitations and uncertainties regarding a person's long-term health outcome. As examples, the composition of smoke will often vary, and individuals will have unique exposure levels/durations, as well as unique susceptibilities. Because of such variables, concerns about potential health impacts associated with burn pits will likely remain for the foreseeable future.

Solid Waste Management Policies and Requirements – Burn Pits Are Your Discretion:

- There are existing DOD and Army level policy, guidance, doctrine and regulations that apply to solid waste management in overseas contingency operations. U.S. Central Command (CENTCOM) has published an environmental regulation (CENTCOM Regulation 200-2) that establishes guidance on what cannot be destroyed in a burn pit. U.S. Forces-Iraq and the commands in Afghanistan have established policies that address solid waste management and waste incineration that includes burn pits. These policies designate decision authority for determining solid waste disposal operations to Base Commanders who are responsible for the overall operations of the base camps they command.
 - Commanders generally establish a Mayor Cell, Director of Public Works, or Base Operating Service Engineer to run and provide oversight of base camp operations. Contractors hold many of these positions and usually perform actual waste disposal. This arrangement reinforces need for clear, enforceable policies.
 - There is no specific military occupational specialty for waste management or burn pit operations. Both Medical and Engineer branches train tasks related to solid waste management.
- Recent engineering policy (USFOR-A-ENG Memorandum, Subject US Trash Burning in Afghanistan, Aug 2009, Memorandum) specifically states that burn pits are “the least preferred option of disposal of materials.” If pits must be utilized, they are to be used in a very limited capacity. This policy is consistent with existing guidance documented in Headquarters, Department of the Army, Technical Bulletin, Medical 593, Guidelines for Field Waste Management, September 2006. The policy and guidance provide the following specific guidance and restrictions on burn pit operations:
 - To the extent possible, locate burn pits downwind of working personnel congested areas (NOTE: TBMED 593 indicates as far downwind as possible (at least 450 feet) from troop locations and living areas. 450 feet off site will likely not be adequate if not down wind).
 - No hazardous waste and/or hazardous materials are allowed in a burn pit.
 - No petroleum, oil, or lubricant (POL) products rubber tar paper asphalt shingles, tires, treated wood, pesticide containers, asbestos containing materials, coated electrical wiring, plastics (to the extent possible) or hazardous air pollutants are to be burned.
 - All attempts are made to conduct burning only three hours after sunrise and cease three hours before sunset. This helps reduce smoke from being trapped in any air inversion that may develop.
 - Open pit burning is not to be conducted where it will obscure the visibility or create hazards on public roads or to airport operations.

USAPHC Recommendations:

- Commanders should conduct a risk-benefit analysis of continued burn pit operations to include the potential for increased perceptions of adverse health effects; public/ Congressional scrutiny; and media interest.
- Attempts should be made to enact the most current and accepted solid waste management and disposal processes at sites (for example, eliminate burn pit operations, or relocate burning operations/personnel to minimize exposures; or minimize use/size/contents/duration of existing burn pits) as opposed to just monitoring (collecting and evaluating additional environmental data).