

The Virgin Islands Consortium

Air Curtain Incineration Of Vegetative Debris To Begin In U.S. Virgin Islands

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To safely and quickly rid the islands of vegetative debris – and drive forward the hurricane recovery effort – a method of burning this debris called “air curtain incineration” (ACI) is scheduled to begin soon in St. Croix and St. Thomas, the Federal Emergency Management Agency (FEMA) announced Friday.

The announcement comes as Governor Kenneth Mapp and 32nd Legislature senators engage in a back-and-forth on the governor's decision to burn some 35 percent of vegetative debris, even after lawmakers approved a bill that, if enacted, would ban all burning in the territory.

In a release issued Tuesday, the governor said some burning is necessary in order to meet with March 20, 2018 deadline, which is when the federal government would no longer pay for removing the debris. "The majority of this vegetative waste will be mulched and composted," the governor said. "But in light of the March 20 deadline, we must leave all options for debris disposal on the table."

He added, "Without some incineration, we are unlikely to meet the deadline. I am attempting to make a reasoned decision and remain very concerned about the environment and about the lives and health of the people of the Virgin Islands."

Hurricanes Irma and Maria left more than 850,000 cubic yards of debris across the U.S. Virgin Islands, about 60 percent of it vegetative such as downed trees and tree limbs, palm fronds, brush and grass.

As the territory cleans up from the hurricanes, the piles of debris pose a risk to human health and safety, FEMA has argued. The federal agency said not only does dried-out debris become a fire hazard, the piles can attract insects, rats and other rodents.

FEMA said to safely and quickly rid the islands of vegetative debris – and drive forward the hurricane recovery effort – a method of burning this debris called "air curtain incineration" (ACI) is scheduled to begin soon in St. Croix and St. Thomas.

A joint Debris Task Force of territorial and federal agencies, including the Virgin Islands Territorial Emergency Management Agency, Department of Public Works, Waste Management Authority, Department of Planning and Natural Resources, Department of Agriculture, Federal Emergency Management Agency, U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA), was formed in the wake of the disaster declarations to develop strategies and courses of action for ridding the islands of hurricane debris.

The task force reviewed three methods of reducing vegetative debris across the territory – composting, chipping and ACI – and the U.S. Virgin Islands government chose the ACI method to dispose of up to 35 percent of vegetative debris.

The task force did not consider the open burn method due to human health and environmental concerns. ACI is a pollution-controlling device that operates by forcefully projecting a curtain of air across an open, integrated combustion chamber. The curtain has the same effect as a lid, trapping most particulates such as smoke and embers inside. Because air is forced into the chamber, an extremely high temperature is created. Particulates are recirculated into the fire, burning them longer, and further reducing emissions to levels well below what would normally be released by open burning. This results in a much faster and cleaner burn.

The air curtain method has been used to reduce storm debris in the aftermaths of major hurricanes, and is also regularly used by the U.S. Forest Service (USFS) to reduce vegetative material. USACE will provide management and oversight of the ACI process.

The EPA will continually monitor air quality for fine particles less than 2.5 micrometers in diameter throughout ACI operations. Knowing the particulate levels while vegetation is being burned can help USACE operate the air curtain burner in a way that minimizes air emissions. If particulate matter goes above the acceptable level of EPA's health-based

24 hour air quality standard for fine particles of

35 micrograms per cubic meter, the ACI operator will decrease the amount of vegetation being incinerated or stop the operation until concentrations return to acceptable levels.

ACI will reduce debris at a higher rate than chipping or mulching, creating more space in temporary debris sites. ACI can reduce debris amounts by 90 to 95 percent. Chipping and mulching methods reduce debris by 65 to 75 percent.

The task force has determined that ACI will reduce both short- and long-term waste management costs by not filling landfills. In addition, ash from typical clean wood waste is a useful soil additive that can reduce the need for chemical fertilizers as it regenerates poor soil and can be marketed to plant nurseries, local farms, and commercial businesses. All of these factors contribute to rebuilding a more resilient Virgin Islands.

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