

To support their expansion application, Coffin Butte Landfill conducted an odor study using two emissions modeling softwares. The outputs of these models suggested that the landfill with its expansion would only pose minor odor nuisances on the landfill itself. Each year, DEQ receives dozens of complaints from nearby residents whose daily lives are impacted by the odor of landfill gas. The results of Coffin Butte Landfill's odor study contradict the lived experiences of residents.

DEQ recently issued a pre-enforcement notice (PEN), which is a legal document outlining violations of regulatory law that Coffin Butte could be fined for. Many of these violations found by DEQ call the odor study into serious question. Coffin Butte's odor study is based on two EPA models that calculate the total amount of gas produced by the landfill and estimate where those gasses travel and cause odors. LANDGEM calculates the likely amount of gasses a landfill produces based on the waste in the landfill. This can be combined with the Gas Collection and Control System (GCCS), which is supposed to collect landfill gas and route it to a flare and/or energy generator for destruction. The GCCS doesn't capture all the gas, and the remaining gas is called fugitive emissions.

Coffin Butte took its estimated fugitive emissions from this and entered it into the second model, called AERMOD. This model estimates how those fugitive emissions will move off of the landfill. Coffin Butte estimated the movement of a few gasses that are likely to cause odors in their study using AERMOD. They found that the landfill with its expansion would not cause nuisance odors despite the fact that the landfill currently causes nuisance odors without its expansion.

There are numerous flaws to call attention to in this study. These flaws help bridge the gap between what residents are experiencing and the ill-found conclusion that the landfill is not causing an odor problem. These flaws also suggest the operators of Coffin Butte either do not know how to comply with federal and state regulations, or they are actively choosing to violate them. Republic Services, the corporate owner of Coffin Butte, is the second largest waste management corporation in the United States. Republic Services is a fortune 500 company, and

they operate more than 200 landfills. A company with this level of wealth, resources, and infrastructure has no excuse to not be complying with regulatory law.

1. There are flaws with the odor modeling tool worth considering. Modeling is not based on actual measurements of pollutants. It estimates the quantity of those pollutants and it estimates where they travel. AERMOD has several limitations worth noting.
 - a. AERMOD is not good at calculating the movement of air pollutants in low wind speed environments. All complaints filed by residents occurred in conditions of 4 mph or less, with the majority being 0 mph.
 - b. AERMOD is not good at modeling across complex terrain. Coffin Butte landfill is placed between two large hills on the edge of a valley. AERMOD relies on wind measurements taken at a higher elevation than these hills. AERMOD is not able to properly account for this complex terrain.
 - c. AERMOD is not able to model emissions in a thermal inversion, which is a very common weather pattern in the Willamette Valley during the cold months. 82% of complaints occur during the fall, winter, and spring, the seasons where inversions are common in the Willamette Valley.
2. DEQ has found that Coffin Butte Landfill is not complying with federal and state requirements for its Gas Collection and Control System (GCCS), and they found the monitoring—used to ensure the GCCS is capturing all the gas it should be—is inadequate, also violating the law.
 - a. Coffin Butte’s GCCS is not properly designed for a landfill of its size. The system is too small to handle the amount of gas produced by the garbage it contains.
 - b. Coffin Butte’s GCCS has been shut off for extended periods of time. For example, the GCCS was not operating for 15 total calendar days in the first quarter of 2025. GCCS should be operational 24 hours a day.
 - c. Coffin Butte’s flare has also been shut off for extended periods. While the GCCS was still collecting gas, that gas was vented straight into the atmosphere without treatment.
 - d. Coffin Butte is not monitoring an average of 72% of their landfill for leaks. Coffin Butte cited these areas as “exempt” from monitoring despite the law requiring

them to get DEQ approval for exemptions. DEQ has never approved an exemption for Coffin Butte.

- e. Independent EPA and DEQ inspectors and community members have repeatedly found and documented holes in the landfill liner, which is supposed to stop gas from escaping the landfill. Coffin Butte maintains they inspect the liner daily for holes, but other parties have found bushes and small trees growing out of the liner, which suggests holes go unaddressed for extended periods of time allowing vegetation to grow out of them.
3. DEQ found that Coffin Butte's LANDGEM calculations are wrong and are under estimating the total landfill gas produced by the facility.