

Biowaste treatment sites and Fire Prevention Plans (FPPs)

The main requirements of the FPP guidance

One of the main aims of the FPP guidance is to have pile sizes on site that ensure that any build up of heat within the pile is dissipated to the atmosphere and the burn time would not exceed 3-4 hours. In addition there would be a 6 metre separation distance between piles to ensure no radiant heat would start a fire in another pile.

Our approach to biowaste treatment:

Open Windrow Composting

There are three areas on site where waste is stored that we are interested in.

1) Composting in windrows.

An FPP will be required but adherence to the stack sizes and distances for the active composting stage will not apply as long as the windrows or vessels can be reached for firefighting purposes. This is because the composting process requires that the waste needs to be kept moist and so compost is regularly monitored for moisture and temperature as part of the composting process. Therefore the risk of fire in a well-managed compost windrow or vessel is minimal.

You should note that water or liquor is needed to maintain moisture levels. An actively managed windrow wouldn't be included in the 'worst case scenario' in Section 16 of the guidance as it is not included in the stack size calculation, but an operator needs to demonstrate that they have enough both to maintain moisture levels and to put a fire out.

The stack sizes and separation distances will be required for the maturation stage and material oversize storage and any other combustible waste storage on site. The maximum 6 month storage time may not apply for compost- see section 8.1 of the guidance.



WINDROW COMPOSTING

2) Oversize (tail ends)

Once the compost has been screened as part of the composting process the material left over, which is generally composed of woody bits and plastic, is usually put to one side to be re-processed. This is commonly referred to as 'oversize'. This has been where most compost fires have occurred and so any stock piling of this material would need to be done in accordance with our FPP guidelines for processed wood in Table 1.

Table 1. FPP guidelines for wood and compost

Material	Loose and more than 150 mm	30 to 150 mm or baled	Less than 30 mm
Wood	750 cubic metres	450 cubic metres	300 cubic metres
Compost and green waste (excluding during the active composting process)	750 cubic metres	450 cubic metres	450 cubic metres

3) Treated waste

Once the waste has been through the windrow stage it may be stored for further maturation. There is a greater risk of fire from this so the FPP guidance in Table 1 would still apply. Processed material that has partially degraded should be stored so that temperature monitoring would be effective (i.e. a probe can monitor the core material) the material should be stored in windrows that allow continued heat convection.

In-vessel composting

The approach for open windrow composting above will also apply to in-vessel composting. The vessels themselves are temperature and moisture controlled but any associated maturation or stockpiling of any oversize would need to be considered in an FPP.

Wet Anaerobic Digestion (AD)

We do not require an FPP for a wet AD process. This is because the waste delivered to the site reception hall is wet and is rapidly introduced in to the process (within hours) so there is little chance of it combusting. The biogas is covered by a number of existing regulations (e.g. The Dangerous Substances and Explosive Atmospheres Regulations – DESEAR) and so has adequate safeguards in place. The other output, i.e. digestate, is wet and unlikely to combust.

Dry Anaerobic Digestion

Feedstocks for dry AD have a higher risk of combustion akin to other activities that store dry waste and so an FPP is needed Officers may still require an FPP for AD or apply more stringent controls to composting operations where a site has a history of fires or is considered to be of a high enough risk to require them.