

Low Emission Zone

Refuse vehicle on short contract into London for music festival at Hyde Park

A waste handling contractor operates a fleet of refuse vehicles fitted with compactors and needs to fulfil a short term contract to provide waste collection services at a Music Festival in Central London. This is a mixed fleet of vehicles of varying ages.



There are a number of factors to be considered. Since the proposed Low Emission Zone (LEZ) emissions criteria require that heavy commercial vehicles over 3.5 tonnes Gross Vehicle Weight conform to a minimum of Euro III standard for particulate matter (PM) in 2008 and Euro IV for PM in 2012, it is sensible to make any investment in retro-fittings on the newest vehicles, where the longer remaining vehicle life will allow for the investment to be recouped. This has the added benefit that the newer vehicles are closer to Euro III or Euro IV in terms of their emissions and should be easier to make compliant.

Therefore, the operator will use his newest vehicles on this contract, redistributing his fleet so that the older vehicles are deployed elsewhere.

Of the vehicles chosen for this particular contract, most were registered since 2001 and have Euro III certified engines. These vehicles are already compliant with the proposed LEZ standard for 2008 and will not need to be modified until the standard tightens to Euro IV for PM in 2012. These vehicles will be automatically recognised by the enforcement cameras in London as compliant vehicles so there is no need to register or contact TfL before driving in the zone.

Any vehicle first registered before October 2001 is likely to have a Euro II engine, and so not be compliant with the proposed LEZ standard for 2008. Although any 'early adopters' of Euro III registered prior to October 2001 are eligible to drive in the zone, and should check with the TfL compliance register that their status is correctly recorded.

Vehicles with engines prior to Euro III will not conform with the proposed LEZ emission standards in their present form. One option for compliance would be to fit abatement equipment such as a Diesel Particulate Filter (DPF) or a

partial filter. These devices would have to be selected to match the particular usage patterns of the vehicle: for example some filter manufacturers have solutions specifically designed for urban refuse vehicles. A DPF would enable the vehicle to meet the LEZ emission requirements in both 2008 and 2012, and, if eligible for a Reduced Pollution Certificate, qualify for reduced Vehicle Excise Duty (VED) rates.

A partial filter – while less expensive and requiring less maintenance than a DPF, will usually only reduce the emissions of PM to that of Euro III level and hence would not be eligible for the Vehicle & Operator Services Agency (VOSA) Reduced Pollution Certificate (RPC) scheme. A Low Emission Certificate (LEC) approved device will be required to enable the vehicle to be compliant with the LEZ standards. Such systems will have been verified to ensure their compliance.

Any vehicles in the fleet which were first registered earlier than October 1998 are likely to be type approved to the Euro I or pre Euro engine emission standards. These vehicles can be fitted with PM abatement systems in order to comply with the proposed LEZ criteria, although a partial exhaust filter will not be adequate to achieve even a Euro III level of PM emissions. The only suitable option is a full-flow DPF. However, DPFs that use a catalytic process for regeneration, may be less suitable for Euro I engines because of the tendency for lubricating oil to be present in the exhaust gas.

As an alternative, DPF systems which use either a fuel-borne catalyst, or an active regeneration system (using a diesel fuel burner or electrical heating) could be specified. It is advisable to consult with the filter manufacturer or distributor/supplier to ensure that the correct filter system is specified.

An alternative option is to install a new engine into the vehicle which meets the required limits. The replacement engine could be a Euro III standard (for 2008), Euro III standard with a DPF (for 2012) or Euro IV standard to meet all the currently proposed LEZ emissions requirements. Clearly, this option is relatively expensive and is only likely to be economically viable on vehicles with a long lifespan. This is frequently true of refuse collection vehicles where the expensive waste compaction bodywork dictates that the chassis has a long useful life. Vehicles with replacement engines will need to register with TfL to ensure that the vehicle is recognised as compliant by the enforcement infrastructure. Fitting a replacement engine can reduce maintenance costs and improve fuel consumption, and may also qualify for a VOSA Reduced Pollution Certificate and reduced VED rates.

In cases where the vehicle may only make one or two visits to Greater London each year, it may be more economic to elect to pay the daily charge for a non-compliant vehicle in preference to retrofitting. The charge for this size vehicle is £200 per day, so this would not be a viable option for the waste contractor described here.