



Air Resources Board



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TO: ALL INTERESTED PARTIES

SUBJECT: INCLUSION OF ELECTRIC EQUIPMENT OF LESS THAN
19 KILOWATTS IN LARGE SPARK IGNITION (LSI) FLEET AVERAGE
CALCULATIONS

The fleet average emission level (FAEL) definition in the LSI Regulation states that “Electric-powered equipment of less than 19 kilowatts shall be allowed to be included in the fleet average calculation provided that the operator can demonstrate that the equipment performs the work equivalent of an LSI engine-powered piece of equipment.” This advisory provides additional guidance to operators of LSI engine equipment regarding when they may include certain electric forklifts, tow tractors, sweeper/scrubbers, and pieces of airport ground support equipment (GSE) in calculations performed to determine compliance with the LSI FAEL standards contained in section 2775.1(a) Table 2 of the LSI Regulation.

The genesis of the 19 kilowatt (kW) threshold is the minimum power threshold contained in the off-road LSI engine definition in the LSI Regulation. In that definition, 2001 through 2004 model year LSI engines have a minimum gross power of 25 horsepower or greater. 2005 and later model year LSI engines have a minimum gross power greater than 19 kW. This does not represent a change in power itself, only the measurement units (kilowatts measure power in the International System of Units, commonly referred to as the metric system).

While this 19 kW threshold was reflected in the FAEL definition, the intent of the LSI Regulation is to let operators include electric equipment in their FAEL standards calculations as long as the equipment performs the work equivalent of an LSI engine-powered piece of equipment. Thus, the Air Resources Board will allow LSI fleet operators to include electric equipment meeting any of the equipment definitions within the LSI Regulation (“Airport Ground Support Equipment or GSE,” “Forklift,” “Industrial Tow Tractor,” and “Sweeper/Scrubber”) in LSI FAEL standards calculations, even if the equipment is rated at less than 19 kW. Thus, all Class 1 and 2 electric forklifts, all Class 6 electric tow tractors, and any sweeper/scrubber or piece of GSE that performs, with similar efficiency, the same function as an LSI engine-powered piece of equipment may be included in FAEL calculations.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

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Operators of GSE fleets (meeting both the "GSE" definition and performing ground support operations at an airport) may include electric burden carriers in their FAEL calculations because the burden carriers are considered carts, one of the 24 categories of equipment identified in section B.3 of Appendix 2 of the November 27, 2002 South Coast GSE Memorandum of Understanding (<http://www.arb.ca.gov/msprog/offroad/gse/appendix-2-final.pdf>). Operators of non-GSE LSI fleets may include electric tow tractors in their FAEL calculations, but may not include burden carriers and other carts.

If you have any questions regarding this advisory, please contact Mr. Mark Williams, Air Pollution Specialist, at (916) 327-5610 or via email at mwilliam@arb.ca.gov, or Ms. Elise Keddie, Manager, at (916) 323-8974 or via email at ekeddie@arb.ca.gov.

Sincerely,

/s/

Robert H. Cross, Chief
Mobile Source Control Division

cc: Elise Keddie, Manager
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