

Large Spark Ignition (LSI) Engine Working Group Meeting

On April 21, 2004, Air Resources Board (ARB) staff conducted the fifth LSI working group conference call. A discussion of each agenda item follows:

Agenda Item	Discussion
Regulatory Objectives	<ul style="list-style-type: none"> • Maximizes cost-effective emissions benefits, meets SIP obligations, and increases opportunities for zero-emission technology • Maximize fleet owner flexibility, while ensuring that the regulations are enforceable • Ensure the regulation doesn't provide adverse incentive for fleets to <ol style="list-style-type: none"> 1. hold on to older higher-polluting LSI forklifts or 2. purchase higher-polluting diesel forklifts instead of electric or LPG or 3. import out of state equipment
Regulatory Options	<ul style="list-style-type: none"> • Staff discussed the options in Table 1. See Attachment • Will rule be a stand alone or combined? • ARB looking at tiered standards more stringent than 2007 EPA requirements • What happened to alignment with federal EPA 2007 standard? • What are the emission benefits of each scenario? • ARB will release regulatory alternatives 10 days before the May workshop, and estimates of emission benefits at workshop • Plan to have regulation encompass more than forklifts
Electric	<ul style="list-style-type: none"> • ARB motivated to go electric = zero emission • If regulation went all electric, operators might keep old equipment longer and not get the tons we want • WG interested to know if electric charging may be a grid load issue • WG interested to know the electric upstream emissions • What are impacts of other emissions from electric lifts (ozone, H₂S, etc.)?
Retrofits	<ul style="list-style-type: none"> • All options will have a retrofit component as uncontrolled LSI often will have emissions in excess of 12g/bhp-hr • Emission Control Group – broader way to look at retrofit kit application: could include different engine families, different equipment, different manufacturers – in one verification
User Fleet Average	<ul style="list-style-type: none"> • Enforcement will be difficult; could require self-certification • Fleet average would take operating hours into account • Working group stresses need for fleet average

[Attachment](#)