

For Discussion Purposes: Final

Definition of Market Based Approach: The volume of 15 ppm sulfur diesel supplied to the nonroad sector (Part 89—includes farm and construction, excludes marine, locomotive, and heating oil) will be governed by market and distribution system demand and the rate at which technologies that require the use of ultra-low sulfur diesel fuel penetrate the nonroad fleet. Regulatory agencies will not mandate an introductory/threshold volume of 15 ppm sulfur diesel to be supplied to the nonroad market. The entire Part 89 nonroad pool would be converted to 15 ppm when market demand and fleet turnover reach an appropriate high level.

Principles:

- Misfueling will be an issue with or without a market based approach.
- Will need a combination of approaches to avoid misfueling. No single approach will achieve objectives.
- A market based approach would allow 15 ppm fuel to be used in nonroad equipment sooner than an all-at-once approach. A program requiring 100% 15 ppm fuel for nonroad could not be introduced in the same timeframe as a market based approach.
- EPA's onroad rule will result in 15 ppm diesel being supplied in excess of that demanded by new highway trucks and retro-fits (onroad and nonroad).
- An early regulatory mandate to produce 100% 15 ppm diesel fuel for nonroad would exacerbate or further compromise all supplies of diesel fuel.

Preventing Misfueling - Equipment and/or Fuel Sensor-Based Approaches:

Physical changes to nozzles and/or tanks:

1. Specially shaped or sized nozzles for dispensing ULSD non-road.
2. Color tanks on equipment and fuel dispensing nozzles the same color to avoid confusion about which fuel goes in which equipment.
3. Electronic signals in the fuel nozzle and tank that must match.

Engine and/or fuel system sensors:

4. Special fuel dye for ULSD non-road with a colorimeter sensor in tank or nozzle inlet to de-tune the engine or close nozzle inlet if fuel other than the correctly dyed non-road ULSD is detected. [Alternatively, require dye in higher sulfur fuel].
5. Same as above but with a chemical marker (rather than a dye) that is easily detectable.
6. Sensors to quickly recognize deteriorating emissions if incorrect fuel is used, with system de-tune triggers.
7. Sulfur detectors in the fuel lines to detect fuel other than ULSD non-road.

Preventing Misfueling - Documentation Approaches:

8. Warning and warranty compliance labels on tanks and nozzles indicating what would happen if misfueling occurs.
9. Product transfer documents requirements throughout the distribution chain.

Preventing Misfueling - Reduced Incentives Approaches:

10. Require purchasers of >15 ppm sulfur nonroad diesel to pay the federal excise tax and apply for refund later.