EPA/Honda Meeting

Oct 23rd, 2012

EPA Members

William Charmley - Acting Director, Assessment and Standards Division (ASD)
Kathryn Sargeant - Acting Deputy Director, ASD - duties include Tier III
Paul Machiele - Director, Fuels Center
Michael Olechiw - Director, Data and Testing Center
Aron Butler - Staff Engineer - Fuels
Cay Yanca - Environmental Protection Specialist
John Koupal - Director, Air Quality and Modeling Center
Rafal Sobotowski - Project leader: Exhaust EM test programs, specialty fuel formulation

Honda Members

Mr. Yuichiro Tanabe, R&D, Japan
Mr. Ayumu Matsuo, Honda R&D Americas (Los Angeles)
Mr. Jeff Jetter, Honda R&D Americas (Los Angeles)
Mr. Brad Errington, R&D Americas (Ohio)
Mr. Jim Erickson, R&D Americas (Ohio)
Mr. Robert Bienenfeld, American Honda Motor Co., PRO

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Agenda : GHG/CAFE Meeting with EPA

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1. AC17 test EPA's Idea

Table 5-7 Vehicle Simulation Results on CO_2 Emissions over SC03 Cycle with EGR Boost Engine

SC03 Cycle		Small Car	Medium Car	Large Car	Truck
CO_2 with A/C off	[g/mi]	196.4	235.7	293.7	472.4
CO_2 Increase with A/C on	[g/mi]	11.7	12.0	13.8	17.2
Total CO_2 with A/C	[g/mi]	208.1	247.7	307.5	489.6
Indirect A/C Fuel Use	[%]	5.6	4.8	4.5	3.5

Table 5-8 Vehicle Simulation Results on CO_2 Emissions over SC03 Cycle with Baseline Engine

SC03 Cycle		Small Car	Medium Car	Large Car	Truck
CO_2 with A/C off	[g/mi]	259.3	348.0	425.4	628.1
CO_2 Increase with A/C on	[g/mi]	11.3	11.1	12.5	16.2
Total CO_2 with A/C	[g/mi]	270.6	359.1	437.9	644.3
Indirect A/C Fuel Use	[%]	4.2	3.1	2.9	2.5

By comparing the values of CO2 increase with A/C on in Table 5-7 and Table 5-8, it is evident that the impact of A/C usage on fuel consumption is not very dependent on the engine technologies.

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HONDA AC17 Test Vehicles specifications

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Honda's Recreate test 11ACC & 13ACC

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Honda Comments

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2. Cool Storage Evaporator (Outline)

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2. Cool Storage Evaporator

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Honda Comments on Cool Storage Evaporator

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3. Tier 3 regulation (Back ground)

EPA & Honda meeting in Japan 2011 FEB

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Sulfur Emission Impact （Honda data）

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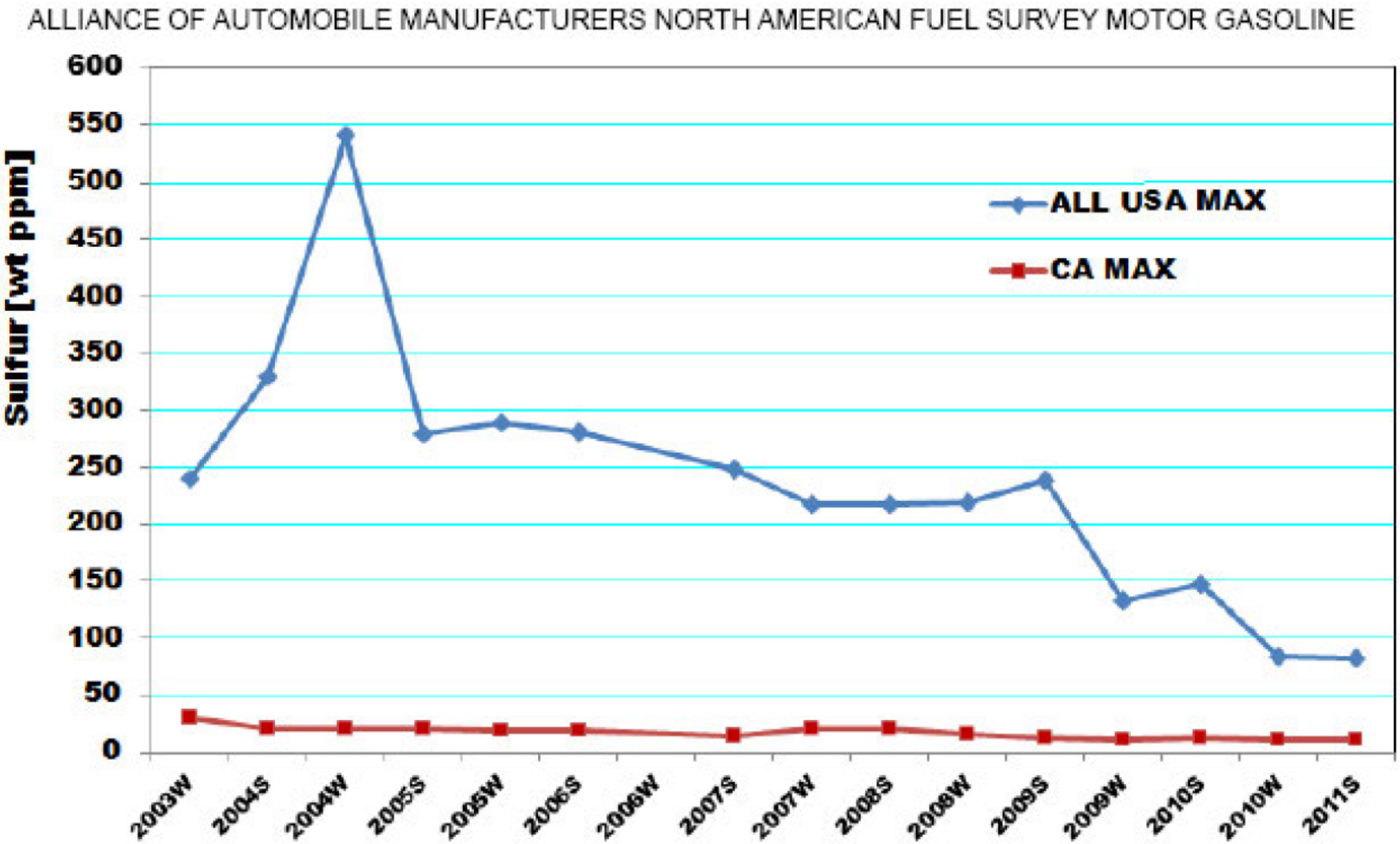
US Market Sulfur ppm



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Today's Proposal about Tier 3 transition Rule

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Tier III Transition Issues – Other

- Is Tier III a national standard like GHG?

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Today's Proposal about Tier 3 transition Rule

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4. PM Index – Background

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4. PM Index – Correlation with Solid Particle Number >23nm

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4. PM Index – Correlation with Particle Mass

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4. PM Index – Effect of Fuel Distillation upon Particle Number

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4. PM index – Discussions with the EPA since ~ August 2011

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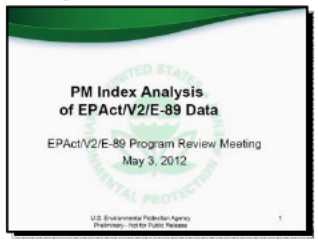
4. PM Index – Honda Comments re: EPAct/V2/E-89 Program

- Large EPA program to study fuel effects. CRC involved in some phases.
- EPA recently considered PM Index correlation. Results presented at May 3rd Review Meeting.
- EPA conclusions:
  - Some vehicles are sensitive to T90/aromatics and ethanol, other are not.
  - Vehicle technology to eliminate fuel property sensitivity is "available now."



Honda comments:

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Example of EPA Data:
PM Mass vs. PM Index

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4. PM Index – Alternatives:

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4. PM Index – Summary & Recommendations

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