



MDEC Diesel Workshop **(TENTATIVE AGENDA)**

Hilton Toronto Airport Hilton
Ontario, Canada

Thursday, October 10, 2019

WORKSHOP Diesel Particulate Filter (DPF) Technology and Engine Technology Deployment

- 08:30 – 9:30** Section 1 - Presenter: *Andreas C.R.Mayer*
DPF - system designs
- History and evolution of DPF systems
 - Modern DPF design and planned changes in design going forward
 - Pros and Cons of different designs
 - How to select a DPF-design for a given application
- 09:30 – 10:15** Section 2 - Presenter: *Andreas C.R.Mayer*
The need for type approval with respect to physical and chemical properties
- Filtration with respect to particle size and number concentration
 - Emission profiles of THC, NO, NO₂ and CO for different DPF systems
 - Secondary emissions
 - What does measured engine emission concentration mean with regard to exposure or exceedance?
- 10:15 – 10:30** **Break Time**
- 10:30 – 11:15** Section 3 - Presenter: *Ralph Deayton (Mammoth)*
Maintaining Mining Diesel Engine Exhaust After-treatment Systems – new technologies for better performance and increased equipment uptime
- 11:15 – 12:00** Section 4 - Presenter: *Matt Roth (Caterpillar)*
Caterpillar Tier 4 Final - Technology and Deployment
- 12:00 – 13:00** **LUNCH**
- 13:00 – 13:30** Section 5 - Presenter: *Evelynn Stirling (Cummins)*
Experience with Enabling Technologies
- 13:30 -14:00** Section 6 - Presenter: Bob Deprez (AirFlow Catalyst Systems)
Diesel Particulate Filters (DPFs) in both new and retrofit applications
- 14:00– 14:30** Section 7 - Presenter: *Andreas C.R.Mayer*
What challenges do operators see in maintaining DPF systems
- Monitoring DPF quality and periodic inspection
 - Safety aspects e.g. exceeding the manufacturer's heat threshold
 - Sintering or loss of precious metals, resulting in premature decline in

- the catalyst coating/life of filter
- Periodic cleaning DPFs – are DPF cleaning firms certified?)

14:30 – 14:45 **Break Time**

14:45 – 16:00 Section 8 - Presenter: *Andreas C.R.Mayer*

DPF application worldwide

- Legislation enforces DPF in Europe (since 2011), China (2017) and India (2020)
- Combination of DPF and deNox strategies
- Engine strategies to optimize exhaust after-treatment (EAS)
- Type approval and PTI
- Assessing best available technology BAT

16:00 – 16:30 Section 9 - Vahid Hosseini (University of Alberta)

Feasibility study of diesel particulate filter (DPF) retrofit solutions

16:30 Adjournment