

AVIATION EMISSIONS CHARACTERIZATION ROADMAP

14th meeting @

National Academy of Sciences
2101 Constitution Avenue, NW, Room 120
Washington, DC, USA
May 24-26, 2016

Teleconference call in #: 877-336-1280 (US); or 404-443-6393 (international, toll call); code: 8384117

WebEx:
<https://www.connectmeeting.att.com>
Meeting #: 8773361280; code: 8384117

FINAL Agenda

DAY 1

May 24, 2016

Noon – 12:15 pm

(1) Welcome, Introduction and Agenda

Carl Ma (FAA) & Joe Navarrete (NAS)

12:15 – 12:30 pm

(2) Meeting purpose and expectations

Ralph Iovinelli (FAA)

12:30 – 1:45 pm

(3) NASA Emissions Research

Moderator: Daniel Jacob (FAA)

Panelists: NASA - Fay Collier, Bruce Anderson, Kathy Tacina

Topics:

- NASA's Environmentally Responsible Aviation (ERA) project
- ACCESS 2
- N+3 Rig Development Tests

1:45 – 2:00 pm

Break

2:00 – 3:00 pm

(4) Canada Emissions Research

Moderator: Maryalice Locke (FAA)

Panelists: Greg Smallwood (NRC), Pervez Canteenwalla (NRC), Ted McDonald (TC)

Topics:

- A Real-Time Method for Calibration of Black Carbon Mass Instruments for Aviation
- Alternative Fuels to 100LL Aviation Gasoline
- GARDN Research Projects

3:00 – 4:00 pm

(5) Commercial Space Travel Emissions

Moderator: Rangasayi Halhore (FAA)

Panelists: Martin Ross (Aerospace Corp.), Phil Whitefield (MS&T), Jared Stout (FAA)

Panel discussion:

- Emissions from Commercial Space Launches

End of Day 1

Day 2

May 25, 2016

8:00 - 9:15 am

(6) Implementing the new CO₂ standards

Moderator: Laszlo Windhoffer (FAA)

Panelists: Wendy Bailey (TC), Steve Arrowsmith (EASA), Ricardo Antonio Binotto Dupont (ANAC)

Topics:

- Overview of CAEP/10 outcomes
- Harmonizing and codifying CO₂ standards
- Potential issues with implementing these standards

9:15 – 9:30 am

Break

9:30 – 10:45 am

(7) International engine nvPM standard

Moderator: Daniel Jacob (FAA)

Panelists: Mike Samulski (EPA), Randy McKinney (P&W), Katherine Preston (ACI-NA), Mike Kenney (KBE)

Panel discussion:

- CAEP/10 Standard and CAEP/11 Outlook
- OEMs, Regulators and Industry Perspectives of CAEP/10 and CAEP/11 standard

10:45 – 11:45 am

(8) Recently Completed ACRP Emissions Characterization Projects

Moderator: Jeetendra Upadhyay (FAA)

Panelists: Joseph Navarrete (NAS), Sarav Arunachalam (UNC), Mike Kenney (KBE)

Topics:

- Overview of ACRP Projects
- Dispersion Modeling Guidance for Airports Addressing Local Air Quality Health Concerns. ACRP Project: 02-58
- Development of a NO_x Chemistry Module for EDMS/AEDT to Predict NO₂ Concentrations. ACRP Project: 02-43

11:45 am - 1:00 pm

Lunch (available for purchase in NAS cafeteria)

1:00 – 2:00 pm

(9) Update on The drive to unleaded gas for Piston Powered Aircraft

Moderator: Warren Gillette (FAA)

Panelists: Marion Hoyer (EPA), Peter White (FAA), Dave Atwood (FAA)

Topics:

- Overview of Leaded Avgas Problem
- EPA Activities Regarding Lead Emissions from Piston Engine Aircraft

- Update on the Piston Aviation Fuels Initiative (PAFI) program, Phases I and II
- Testing at WJH Technical Center

2:00 – 2:15 pm

Break

2:15 – 3:15 pm

(10) Fuel Composition Effects on Emissions

Moderator: Meng-Hui Lai (FAA)

Panelists: Tonghun Lee (UIUC), Randy Vander Wal (PSU), Mel Roquemore (USAF)

Topics:

- Fundamental Studies of Alternative Fuels Emissions
- Update on Non-volatile PM Database Compilation, Analysis, and Predictive Assessment
- Update on Alternative Fuels Test Database Library

3:15 – 4:30 pm

(11) Alternative Fuels Research

Moderator: Carl Ma (FAA)

Panelists: Nate Brown (FAA), Cynthia Ginestra (Shell), Imad Khalek (SwRI)

Topics:

- FAA/CLEEN Alternative Jet Fuels R&D Update
- Correlating Reduced nvPM Emissions with Fuel Composition
- SwRI's Jet Fuel Particle Index Correlation with Particle Emissions from Gas Turbines

End of Day 2

Day 3

May 26, 2015

8:00 – 9:00 am

(12) Aviation Emissions and Dispersion Modeling

Moderator: Mohammed Majeed (FAA)

Panelists: Laurent Cavadini (EUROCONTROL), Roger Wayson (Wyle), Rick Miake-Lye (ARI)

Topics:

- EUROCONTROL Tools
- Advancing the Dispersion Modeling Capabilities for Aircraft Operations
- Cruise PM methodology

9:00 – 10:15 am

(13) nvPM Measurements and System Losses

Moderator: Daniel Jacob (FAA)

Panelists: Don Hagen (MS&T), Rick Miake-Lye (ARI), Frank Bachman (GE)

Topics:

- Particle losses in the system
- Uncertainties associated with nvPM measurements
- Industry experience with particle losses

10:15– 10:30 am

Break

10:30 – 11:30 am

(14) Aviation Air Quality and Health Impacts

Moderator: Nicole Didyk (FAA)

Panelists: Steven Barrett (MIT), Sarav Arunachalam (UNC)

Topics:

- GeosChem Adjoint Nested Model
- Advanced Air Quality Airport Modeling Capabilities

11:30 – noon

(15) Discussion and Concluding Remarks

Ralph Iovinelli (FAA)

Meeting Adjourned