

AGENDA

AVIATION TECHNICAL COMMITTEE MEETINGS of the Coordinating Research Council, Inc.

Hyatt Regency Savannah
Savannah, Georgia

April 29 - May 2, 2013



Charter Members

API	Pratt & Whitney
The Boeing Company	Shell Aviation & Shell Global
DLA Energy	United States Air Force
Federal Aviation Administration	United States Navy
NASA	

Contributing Members

Air BP	IATA
Air Total	Innospec Fuel Specialties
Chevron Global Aviation	Phillips 66 Company
ExxonMobil Research & Engineering	Rolls-Royce Plc
Flint Hills Resources	SASOL Technology
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Sponsor Members

Facet International	Gammon Technical Products
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COORDINATING RESEARCH COUNCIL, INC.

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MEETING SCHEDULE 2013 CRC AVIATION MEETINGS

April 29 - May 2, 2013

Monday, April 29, 2013

	Meeting Room
12:00 PM - 1:00 PM Registration	Ballroom Foyer
1:00 PM - 3:55 PM Aviation Gasoline and Piston Fuels Group <i>Roger Gaughan, Chair, and Dave Atwood, Vice-Chair</i>	Regency Ballroom AB
3:55 PM - 4:25 PM BREAK	Ballroom Foyer
4:25 PM - 6:00 PM Aviation Gasoline & Piston Fuels Group (continued) <i>Roger Gaughan, Chair, and Dave Atwood, Vice-Chair</i>	Regency Ballroom AB
6:00 PM - 7:00 PM Hosted Reception	Garden Terrace

Tuesday, April 30, 2013

	Meeting Room
7:00 AM - 8:00 AM Continental Breakfast Buffet	Ballroom Foyer
8:00 AM - 8:30 AM CRC Introduction and Overview <i>Tim Edwards, Chair, and Alisdair Clark, Vice-Chair</i>	Regency Ballroom AB
Fuel Handling and Contamination Group <i>-No Report for this meeting</i> <i>Haydee Carlton, Chair, and Jack Buffin, Vice-Chair</i>	Regency Ballroom AB
8:30 AM - 9:30 AM Operability Group <i>John Rhode, Chair, and Rob Midgley, Vice-Chair</i>	Regency Ballroom AB
9:30 AM - 10:00 AM BREAK	Ballroom Foyer
10:00 AM - 11:15 AM Production and Delivery Group <i>Enrico Lodrigueza, Chair, and Ron Osman, Vice-Chair</i>	Regency Ballroom AB
11:15 AM - 12:00 PM Low Temperature Group <i>Don Phelps, Chair, and Dennis Hoskin, Vice-Chair</i>	Regency Ballroom AB
12:00 PM - 1:30 PM LUNCH ON OWN	
1:30 PM - 3:30 PM Emerging Fuels Group - Session 1 <i>Joanna Bauldreay, Chair, and Tim Edwards, Vice-Chair</i>	Regency Ballroom AB
6:00 PM - 9:30 PM Dinner Cruise aboard Savannah River Queen <i>Meet at 5:50 pm in lobby to walk to boat as a group. Boarding 6:00; cruise departs at 7:00.</i>	

Wednesday, May 1, 2013

		Meeting Room
7:00 AM - 8:00 AM	Continental Breakfast Buffet	Ballroom Foyer
8:00 AM - 10:30 AM	Fuel Stability Group <i>Chris Lewis, Chair, and Steve Zabarnick, Vice-Chair</i>	Regency Ballroom AB
10:30 AM - 10:50 AM	BREAK	Ballroom Foyer
10:50 AM - 12:20 PM	Properties and Emissions Group <i>Edwin Corporan, Chair, and David Abdallah, Vice-Chair</i>	Regency Ballroom AB
12:20 PM - 1:50 PM	LUNCH ON OWN	
12:20 PM - 1:50 PM	CRC Aviation Steering Committee Working Lunch <i>Tim Edwards, Chair, and Alisdair Clark, Vice-Chair</i> <i>(Members and Invited Guests Only)</i>	Savannah Room
1:50 PM - 3:20 PM	Emerging Fuels Group - Session 2	Regency Ballroom AB
3:20 PM - 3:40 PM	BREAK	Ballroom Foyer
3:40 PM - 5:25 PM	Emerging Fuels Group - Session 3	Regency Ballroom AB
6:00 PM - 7:00 PM	Hosted Reception	Windows Room

Thursday, May 2, 2013

		Meeting Room
6:00 AM - 8:00 AM	Continental Breakfast Buffet	Ballroom Foyer
8:00 AM - 9:00 AM	Advanced Research and Test Methods Group <i>Robert E. Morris, Chair, and Jim Kinder, Vice-Chair</i>	Regency Ballroom AB
9:00 AM - 10:00 AM	Publications Group <i>Tedd Biddle, Chair, and Melanie Thom, Vice-Chair</i>	Regency Ballroom AB
10:00 AM - 10:20 AM	BREAK	Ballroom Foyer
10:20 AM - 11:05 AM	Fuel System Safety Group <i>Mark Orr, Chair, and Nathan Diedrich, Vice-Chair</i>	Regency Ballroom AB
11:05 AM - 11:35 AM	CRC Aviation Technical Committee <i>Bill Taylor, Chair, and Chi-Ming Lee, Vice-Chair</i>	Regency Ballroom AB
11:35 AM - 11:50 AM	CRC Aviation Committee Meeting Wrap-up and Discussion <i>Tim Edwards, Chair, and Alisdair Clark, Vice Chair</i>	
11:50 AM	End of meetings	

Meeting Agenda

CRC Activity: **Aviation Gasoline and Piston Fuels Group**

Roger Gaughan, Chair & Dave Atwood, Vice-Chair

Date: Monday, April 29, 2013

Time: 1:00 pm - 6:00 pm

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

1:00 PM Ultra-low Lead Fuel Update

Alisdair Clark, AirBP

1:20 PM European Avgas Initiatives

Alisdair Clark, AirBP

1:40 PM Cessna Programs Updates - UL91, CI/Jet-A approvals

Nathan Diedrich, Cessna

2:00 PM **BREAK**

2:20 PM Engine Parametric Study for the FAA Technical Center

Herb Schlickenmeir, Crown Consulting; Ron Wilkinson, AvSouth

3:05 PM Swift Fuels Update

Chris D'Acosta, Swift Fuels

3:25 PM Carburetor Icing Test

Roger Gaughan, ExxonMobil Research and Engineering

3:55 PM **BREAK**

4:25 PM Update on EPA Pb sampling results

Mark Rumizen, FAA

4:45 PM Pre-Broad Agency Announcement, PAFI Update

Mark Rumizen, FAA

5:10 PM Jet for Diesel TF Update

Roger Gaughan, ExxonMobil Research and Engineering

6:00 PM **Adjourn**

Meeting Agenda

CRC Activity: CRC Introduction and Overview

Tim Edwards, Chair, and Alisdair Clark, Vice-Chair

Date: Tuesday, April 30, 2013

Time: 8:00 AM - 8:30 AM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda: Opening of the 2013 CRC Aviation Meeting, Alisdair Clark, AirBP
[on behalf of Tim Edwards, USAF]

Welcome

Call to Order

Introduction

Opening Remarks

Meeting Items of Interest, Jan Tucker, Coordinating Research Council

Activities

CRC Group/Panel Memberships

Membership and Information Exchange/Ownership,
Brent Bailey, Coordinating Research Council

Aviation Committee Status/Current Activities,
Brent Bailey, Coordinating Research Council

Open Forum - Member Issues

Meeting Agenda

CRC Activity: **Fuel Handling and Contamination Group**
Haydee Carlton, Chair, and Jack Buffin, Vice-Chair

No Report for this meeting

Meeting Agenda

CRC Activity: Operability Group

John Rhode, Chair, and Rob Midgley, Vice Chair

Date: Tuesday, April 30, 2013

Time: 8:30 AM - 9:30 AM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

8:35 AM - 8:55 AM DRA in Jet Fuel

Jason Mengel, Buckeye Pipeline

8:55 AM - 9:15 AM Rapid Degassing: Progress Against D4054

Jim Rice, Nanovapor Fuels Inc.

9:30 AM Adjournment

Meeting Agenda

CRC Activity: **Production and Delivery Group**

Enrico Lodrigueza, Chair and Ron Osman, Vice-Chair

Date: **Tuesday, April 30, 2013**

Time: **10:00 AM - 11:15 AM**

Place: **Hyatt Regency Savannah
Savannah, GA**

Agenda:

10:00 AM - 10:25 AM Shared Inspection Group and API 1595 Update

John Rhode, Air BP

10:25 AM - 10:45 AM Corrosion Inhibitors Emulsion Forming Study

Enrico Lodrigueza, Phillips 66

10:45 AM - 11:15 AM EI 1530 Update

Martin Hunnybun, Energy Institute

11:15 AM Adjournment

Meeting Agenda

CRC Activity: Low Temperature Performance Group

Don Phelps, Chair and Dennis Hoskin, Vice-Chair (represented by Steve Zabarnick)

Date: Tuesday, April 30, 2013

Time: 11:15 AM - 12:00 PM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

11:15 AM - 11:35 AM Developing a Cold Fuel Flowability Test (Project AV-16-11)

Steve Zabarnick, University of Dayton Research Institute

11:35 AM - 11:55 AM Dynamic Viscosity Measurement of Jet Fuel at Low Temperatures

Larry Spino, PAC L.P.

11:55 AM - 12:00 PM Update: FSII Reduction Program

Don Phelps, Air Force Research Laboratory (presented by Steve Zabarnick)

Adjournment

Meeting Agenda

CRC Activity: Emerging Fuels Group Session 1

Joanna Bauldreay, Chair and Tim Edwards, Vice-Chair

Date: Tuesday, April 30, 2013

Time: 1:30 PM - 3:30 PM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

- 1:30 PM - 1:35 PM Introduction
PANEL: Synthetic Jet Fuel Approval Process - Task Forces
Joanna Bauldreay, Shell, and Tim Edwards, U.S. Air Force
- 1:35 PM - 1:50 PM ASTM Alternative Fuel Task Forces Overview
Mark Rumizen, FAA
- 1:50 PM - 2:05 PM ASTM Task Force Update - ATJ
Glenn Johnston, Gevo, and Kevin Weiss, Byogq
- 2:05 PM - 2:20 PM ASTM Task Force Update - SKA
Cliff Moses, Consultant
- 2:20 PM - 2:35 PM ASTM Task Force Update - HDCJ
Jeff Trewella, Petrotech
- 2:35 PM - 2:50 PM ASTM Task Force Update - DSHC
Fernando Garcia, Amyris
- 2:50 PM - 3:10 PM Investigation into the impact of normal, iso- and cyclo paraffins on elastomeric seals using stress relaxation
Yue Liu and Christopher W Wilson, University of Sheffield
- 3:10 PM - 3:30 PM Investigation into the impact of normal, iso- and cyclo paraffins on elastomeric seals using stress relaxation, Part II. A solvency perspective
Jeff Trewella, Petrotech, and Christopher W Wilson and Yue Liu, University of Sheffield
- 3:30 PM Adjournment

Meeting Agenda

CRC Activity: Fuel Stability Group

Chris Lewis, Chair and Steve Zabarnick, Vice-Chair

Date: Wednesday, May 01, 2013

Time: 8:00 AM - 10:30 AM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

- 8:00 AM - 8:30 AM SwRI Small Scale, High Reynolds Thermal Stability Test System
George Wilson, Southwest Research Institute
- 8:30 AM - 9:00 AM Evaluation of the Impact of FAME Contamination on Thermal Stability of Jet Fuel
Steve Zabarnick, University of Dayton Research Institute for Bob Morris, Air Force Research Laboratory
- 9:00 AM - 9:30 AM The Use of Antioxidants in Jet Fuel
Alisdair Clark, AirBP
- 9:30 AM - 10:00 AM Impact of FAME, Phenols and Additives on Jet Fuel Thermal Stability
David Abdallah, ExxonMobil
- 10:00 AM - 10:30 AM Ellipsometer Panel Report
George Wilson, Southwest Research Institute
- 10:30 AM Adjournment

Meeting Agenda

CRC Activity: Properties and Emissions Group

Edwin Corporan, Chair and David Abdallah, Vice-Chair

Date: Wednesday, May 01, 2013

Time: 10:50 AM - 12:20 PM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

- 11:00 AM - 11:20 AM Next-Generation Low-Emissions Combustor Technologies
Chi-Ming Lee, NASA
- 11:20 AM - 11:40 AM NASA Alternative Fuels Research Program
Dan Bulzan, NASA
- 11:40 AM - 12:20 PM Update and Discussion on AV-14-11
David Abdallah, ExxonMobil, and Alisdair Clark, AirBP
- 12:20 PM Adjournment

Meeting Agenda

CRC Activity: **Emerging Fuels Group Session 2**

Joanna Bauldreay, Chair, and Tim Edwards, Vice Chair

Date: **Wednesday, May 1, 2013**

Time: **1:50 - 3:20 PM**

Place: **Hyatt Regency Savannah
Savannah, GA**

Agenda:

1:50 PM - 1:55 PM **PANEL: Synthetic Jet Fuels for Aviation Panel (CA-69-98) - Program reviews**

Tedd Biddle, P&W

1:55 PM - 2:10 PM ASTM D4054 update

George Wilson, SwRI

2:10 PM - 2:30 PM Formalizing the FAA/OEM Panel Review Process

Greg Hemighaus (for Virent)

2:30 PM - 2:45 PM ASTM Task Force Update - SAK/SK

Mike Wright, US Navy

2:45 PM - 3:05 PM n-butanol to Jet/Diesel Fuel (ATJ-SPK), synthetic aromatics (added to our SPK fuels)

Ed Coppola, ARA

3:05 PM - 3:20 PM ReadiJet update

Meeting Agenda

CRC Activity: Emerging Fuels Group Session 3

Joanna Bauldreay, Chair, and Tim Edwards, Vice Chair

Date: Wednesday, May 1, 2013

Time: 3:40 - 5:25 PM

Place: Hyatt Regency
Savannah, GA

Agenda: Research Projects

Joanna Bauldreay, Shell

3:40 PM - 3:50 PM European activity on alternative fuels

3:50 PM - 4:10 PM GTL Jet R&D update

Tedd Biddle, P&W

4:10 PM - 4:30 PM P&W Canada Engine Test for CLEEN

Cliff Moses, Consultant

4:30 PM - 4:50 PM Dielectric-Density Correlation Issue

Chris Lewis, Rolls-Royce

4:50 PM - 5:10 PM BA/RR CLEEN programme

Joanna Bauldreay, Shell, and session attendees

5:10 PM - 5:25 PM Where are we now, and what R&D programmes are still needed? Revisit CAAFI White Papers

Meeting Agenda

CRC Activity: **Advanced Research & Test Methods Group**

Robert E. Morris, Chair, and Jim Kinder, Vice-Chair

Date: **Thursday, May 2, 2013**

Time: **8:00 AM - 9:00 AM**

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

- 8:00 AM - 8:20 AM Detection and Quantification of Phenolic Antioxidants in Fuels by GC-MS
Thomas Loegel, Nova Research Inc.
- 8:20 AM - 8:40 AM GCxGC TOFMS Implementation at Southwest Research Institute
George Wilson III, Southwest Research Institute
- 8:40 AM - 9:00 AM Development of New Screening Tools for Certification of Alternative Fuels and Blends
Jeffrey Cramer, U.S. Naval Research Laboratory
- 9:00 AM Adjournment

Meeting Agenda

CRC Activity: CRC Publications Group

Tedd Biddle, Chair, and Melanie Thom, Vice-Chair

Date: Thursday, 2 May 2013

Time: 9:00 AM - 10:00 AM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda: Call to Order - *Tedd Biddle*

- Approval of 2012 minutes - *Melanie Thom*

OLD BUSINESS

- Status Report: 2013 Fourth Edition Handbook of Aviation Fuel Properties - *Tedd Biddle*
- Water Solubility Plots - *Alisdair Clark*

NEW BUSINESS

- Open Discussion - Ideas for the next edition (5th Edition)
 - Short-term data additions & improvements that can be accomplished in 12 mo.
 - Longer-term data additions & improvements that can be accomplished in 24 - 36 mo.

Adjourn

Meeting Agenda

CRC Activity: Fuel System Safety Group

Mark S. Orr, Chair, and Nathan Diedrich, Vice-Chair

Date: Thursday, May 2, 2013

Time: 10:20 AM - 11:05 AM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda:

- 10:20 AM - 10:25 AM Welcome
Mark S. Orr, FAA
- 10:25 AM - 10:50 AM Assessing Gauging Performance of Alternative Fuels
David Parmenter, Airbus Operations Ltd
- 10:50 AM - 11:05 AM Confined Space and Jet Fuel, Different Meters, Different Results
Jim Rice, CEO, Nanovapor Fuels, Inc.
- 11:05 AM Adjournment

Meeting Agenda

CRC Activity: **Aviation Technical Committee**
Bill Taylor, Chair and Chi-Ming Lee, Vice-Chair

Date: Thursday, May 2, 2013

Time: 11:05 AM - 11:35 AM

Place: Hyatt Regency Savannah
Savannah, GA

Agenda: Call to Order
Adoption of May 2012 Minutes
Membership
Group Reports - Action Item Summary
New Business
Action Items
Next Meeting / Adjournment

Meeting Agenda

CRC Activity: **Aviation Committee Meeting Wrapup & Discussion**

Tim Edwards, Chair, and Alisdair Clark, Vice-Chair

Date: Thursday, May 2, 2013

Time: 11:35 AM - 11:50 AM

Place: Hyatt Regency Savannah
Savannah, GA