

**Aviation Rulemaking Advisory Committee  
Executive Committee  
Meeting Summary**

**DATE:** February 7, 2001

**LOCATION:** **Hyatt Regency, Crystal City**  
2799 Jefferson Davis Highway  
Arlington, VA 22202

**PUBLIC NOTIFICATION:** The public was informed of this meeting in the Federal Register on January 18, 2001 (66 FR 4887).

**ATTENDEES:**

Edmond Boullay	JAA
Craig Bolt	Pratt and Whitney
Tony Fazio	FAA
Dave Hilton	Gulf Stream
Gerri Robinson	FAA
Norm Joseph	ADF
Ida Klepper	FAA
Al Prest	ATA
Ron Priddy	NACA
Ian A. Redhead	AAAE
Ken Susko	ASF
Florence Hamn	FAA
Brad Moravec	AIA
Chris Witkowski	AFA
Gale Dunham	NADA/F
Paul Larson	FAA
Bill Edmunds	ALPA
Brenda Courtney	FAA
Jack Kreckie	ARFF Working Group
Mike Ganley	Airbus
Sean O'Callaghan	Fuel Tank Inerting Working Group
Pat Boyd	FAA
Mark Lawyer	FAA
Nancy McKinley	International Airline Passengers Association
Kent Hollinger	ATSRAC
Bill Glover	Boeing
Joe Corrao	HAI
Paul Hudson	ACAP
Sarah MacLeod	ARSA
Don Byrne	FAA
Tom O'Mara	NADA/F
Meg Meyer	Flt. Disp., Meteor., & Ops. Specl. Union
David Smith	Airline Dispatchers Federation
A.B. Wassell	Cessna
Nick Anderson	Cessna
Amanda O'Callaghan	British Airways
Adrian Schofield	"Inside FAA"
James L. Crook	ATCA

## **MEETING SUMMARY**

- Chair, Al Prest, called the Aviation Rulemaking Advisory Committee (ARAC) Executive Committee (EXCOM) meeting to order at 1:25 p.m.
- Tony Fazio, the ARAC Executive Director, reminded the Executive Committee that the Federal Advisory Committee Act (FACA) statement read earlier that morning during the Full Committee meeting was still in effect for the Executive Committee meeting.

### **Review and Approval of Minutes of Previous Meeting**

The minutes from the November 9, 2000, were reviewed by the EXCOM members. Ron Priddy proposed a motion to accept the minutes. The motion was approved and the minutes from the Nov. 9, 2000, meeting were adopted.

### **Status Report: Fuel Tank Inerting Working Group**

- An update/briefing was presented by Co-Chairperson Sean O'Callaghan.
- The briefing updated the working group's progress; and addressed the work plan, working group activity, task team process, major milestones, and concluded with a summary.
  - Mr. O'Callaghan explained the working group's task and reviewed the deliverables and concepts for evaluation. He mentioned the team has had 2 meetings since the Nov. 2000 EXCOM meeting. One in London, England, Dec. 2000, and other in Miami, Florida, Jan. 2001. Sean explained the structure of the task team, plus the Ground-Base Design and On-Board Design teams. He walked through the schematic located on page eight of the handout (attached).
  - Sean noted the Airport Facility Team is in the process of surveying airports and meeting with airport authorities at various airport hubs, i.e., Los Angeles, La Guardia, Atlanta, Boston, Atlantic City, Heathrow, and Charles De Gaulle.
  - Sean announced the working group now has more European participation. KLM and Virgin Atlantic have joined the working group.
  - Sean concluded with a review of the working group's major milestones. He felt the group is on target, and will meet its due date to the EXCOM.
- Mr. O'Callaghan concluded his briefing by answering EXCOM questions.
  - Paul Hudson requested a list of working group members. Sean forwarded the list and it will be placed in the minutes along with the Fuel Tank Inerting Working Group's presentation.

Mr. Hudson questioned the time frame for this task and the deadline to EXCOM. Mr. O'Callaghan assured Mr. Hudson the working group believes it can meet its deadline of July 2001.

Mr. Hudson then had a question concerning the length of time it will take for the working group to make their recommendations to EXCOM, how long will it take for EXCOM to review, etc. Mr. Fazio addressed Mr. Hudson's concerns by referring him to the "Operating Procedures for the Aviation Rulemaking Advisory Committee" regarding these time frames.

- There was a discussion as to the need for an ad hoc EXCOM meeting to accommodate the review of this task when transmitted to the Executive Committee. Mr. Hudson was concerned

about more than one version of a draft being circulated. Brad Moravec stated the working group will have all final edits incorporated before the document is transmitted to EXCOM. Sarah MacLeod reaffirmed there was no need for an ad hoc meeting of EXCOM, as the August 8 meeting would be within ARAC guidelines for EXCOM review.

### **Status Reports**

- Each member gave a brief status report.
- During Mr. Glover's status report, Chris Witkowski asked if the Performance Standard Working Group's task was completed. Mr. Glover confirmed it had been completed.

Gail Dunham indicated Emergency Evacuation Issues (now Occupant Safety Issues) schedules their meetings, a majority of the time, in Seattle, WA, and requested that they be held in a centralized location. Mr. Glover stated that this issue area consists of people from all over the world, and that the next meeting will be in Washington, DC.

Mr. O'Mara raised a question regarding the size of emergency exits on aircraft. He was concerned about the relative size of emergency exits and the potential size of the people who may need to use the exits. EXCOM acknowledged the comment. Mr. Glover stated that CAMI was doing some testing on the subject.

### **Remarks to the EXCOM**

- Mr. O'Mara raised a concern regarding the recent Colorado air accident. He asked whether the parents of children boarding charter flights know the difference between part 121 air carrier regulations and part 135 regulations governing charter flights? He believes the parents should know about these differences, and maybe have the opportunity to sign a waiver.

A discussion followed centering around a suggestion for rulemaking. Mr. Prest reminded the group that EXCOM was not the forum for this discussion. ARAC receives its tasks from the FAA. Mr. O'Mara's point was well taken by EXCOM. Mr. Prest advised Mr. O'Mara he could submit a Petition for Rulemaking to the FAA on this subject.

### **Meeting Dates**

- The EXCOM Committee agreed the next meeting will be May 9, 2001.

Minutes approved and verified as accurate  
EXCOM meeting April 4, 2001.  
Glenn Rizner, Vice Chair - Acting Chair  
Tony Fazio, Executive Director.

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Working Group Members**

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**Task Team Members for the ARAC FTIHWG  
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*ARAC*  
*Fuel Tank Inerting*  
*Harmonization Working Group*

*Executive Committee Update*  
*February 7, 2001*

Bradford Moravec, Co-Chairman  
Sean O'Callaghan, Co-Chairman

# *Agenda*

- The Work Plan
- Working Group Activity
- Task Team Progress
- Major Milestones
- Summary



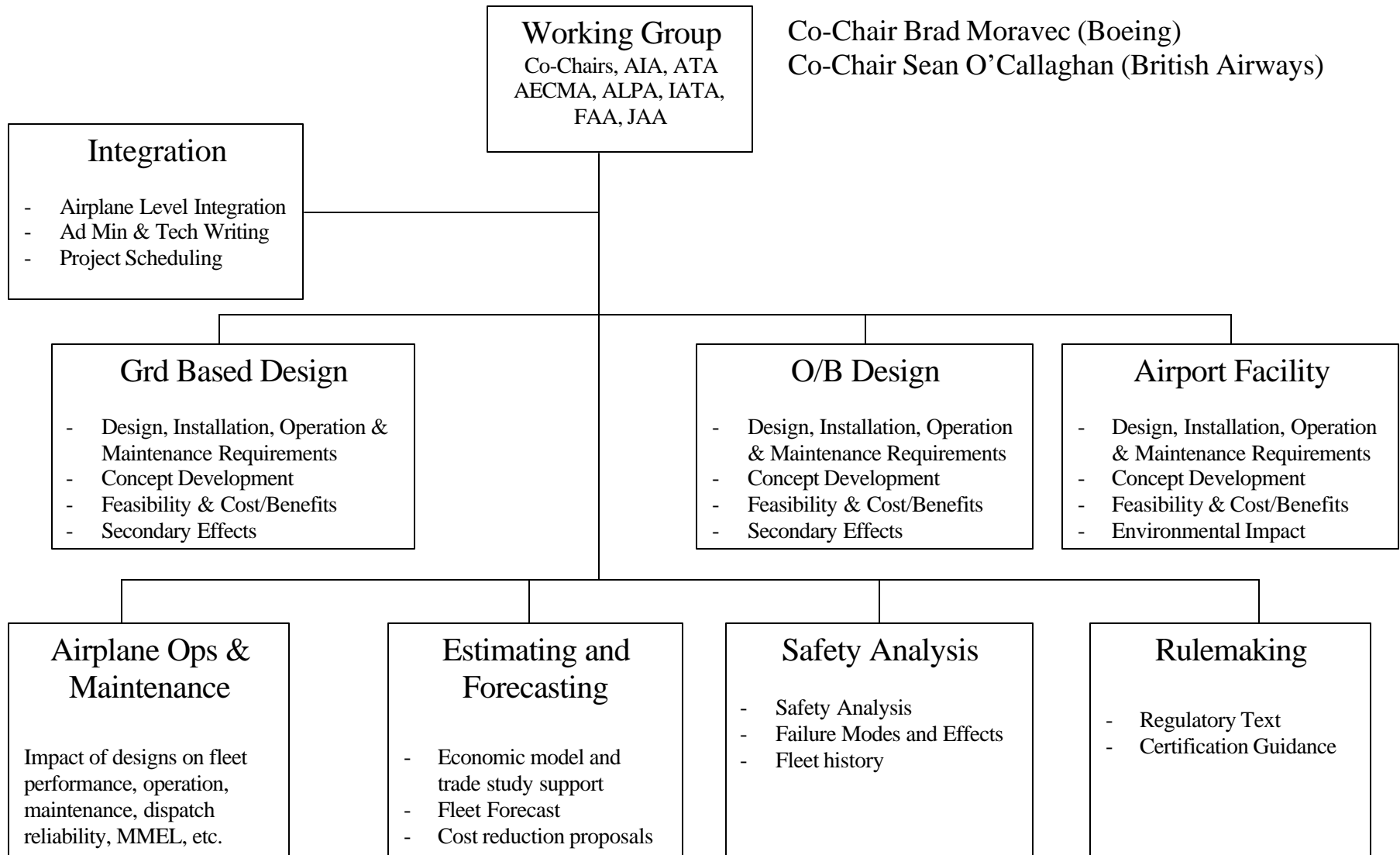
# *The Work Plan*

- Deliverables
  - Recommend regulatory text that would require significantly reducing the development of flammable vapors in fuel tanks on transport category airplanes.
  - Evaluate options for implementing these new regulations.
  - Identify technical limitations for design options considered currently impractical
  - Provide guidance on analysis and testing for demonstrating certification compliance and continuing airworthiness.
- Concepts for Evaluation
  - Ground-Based Inerting
  - On-Board Ground Inerting
  - On-Board Inert Gas Generating System
  - Hybrid Systems

# *Working Group Activity*

- Progress since last Ex-Com Briefing (Nov 9, 2000):
  - 3rd Working Group Meeting, London, Dec 13-14, 2000
  - 4th Working Group Meeting, Miami, Jan 23-24, 2001
  - Numerous Task Team Meetings
- Weekly Telecons with Working Group & Task Team Leaders
- New Members
  - One new Working Group Member
  - Thirteen new Task Team Members, including more European participation

# ARAC FTIHWG



## *Ground-Based Inerting - Airplane Design*

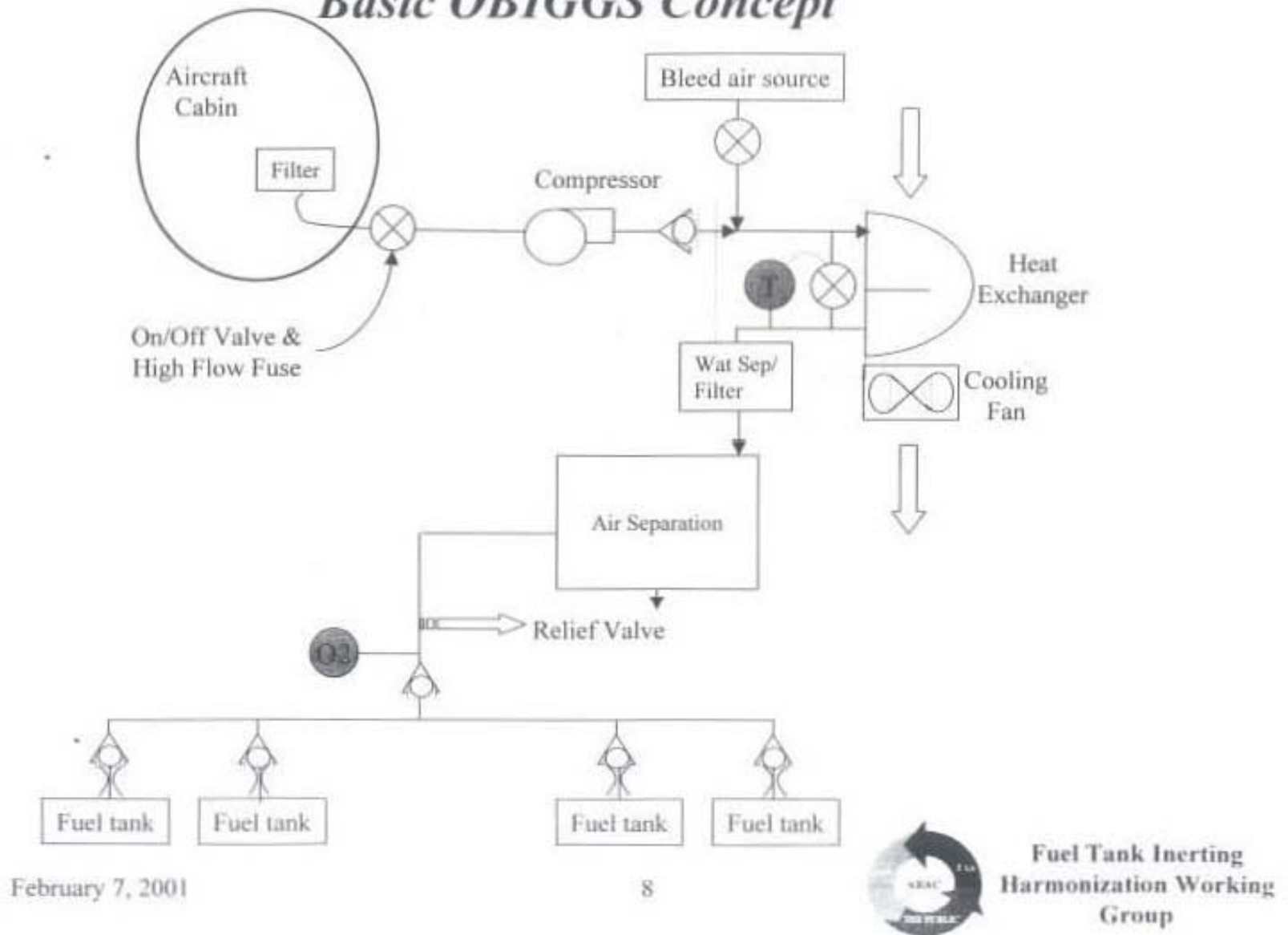
- Preliminary requirements for design, installation, operation and maintenance have been defined.
- Preliminary airplane design concepts have been developed.
- B737 Ground-Based Inerting test is underway.
- Recurring and Non-Recurring cost items have been identified.
- Safety, risk and secondary effects are under evaluation.

# *On-Board Inerting - Airplane Design*

- Preliminary requirements for design, installation, operation and maintenance have been defined.
- Preliminary design concepts have been developed.
  - On-Board Inert Gas generating System
  - On-Board Ground Inerting
  - Hybrid Systems
- Recurring and Non-Recurring cost items have been identified.
- Safety, reliability, risk and secondary effects are under evaluation.

# On-Board Inerting - Airplane Design

## Basic OBIGGS Concept



February 7, 2001

# *Airport Facilities*

- Three U.S. and two foreign airports have been studied in detail
- Preliminary requirements for design, installation, operation and maintenance of fuel scrubbing and ullage washing systems have been defined.
- Preliminary design concepts for fuel scrubbing and ullage washing systems have been developed.
- Recurring and Non-Recurring cost items for inerting systems within the United States and other areas of the world have been identified.

# *Airplane Operations and Maintenance*

- Evaluating the preliminary design concepts to determine the impact on flight operations and procedures, airplane maintenance and fleet performance.
- Developing a Maintenance Plan based on the B757 which can be adapted to other aircraft models.
- Evaluating the cost impact these preliminary concepts will have on flight operations, maintenance, fleet planning, etc.



# *Estimating and Forecasting*

- Enveloping top level models to assist the other teams in evaluating the economic impact the inerting system concepts will have on airplane design, airplane operation and airport facilities.
- Evaluating methods to minimize the overall system costs.

# *Safety Analysis*

- Evaluating the net safety benefits of the preliminary design concepts.
- Evaluating the improved safety impact these preliminary concepts have on the service history of fuel tank explosions due to internal and external tank ignition sources and post-crash fuel tank fires.

# *Rulemaking and Compliance*

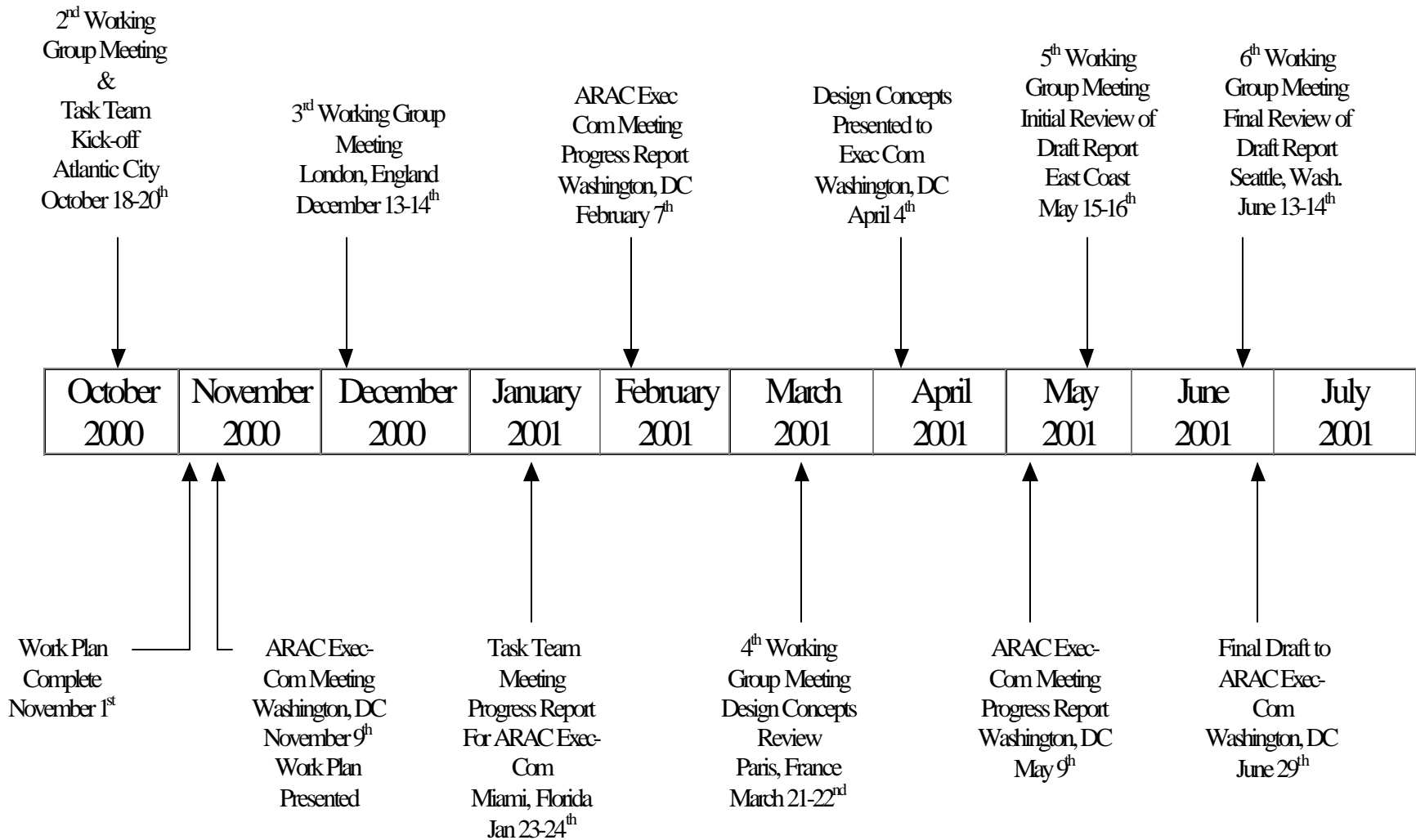
- Evaluating draft regulatory text for new rulemaking that would require eliminating or significantly reducing the flammable environment in airplane fuel tanks.
- Developing guidance material, based on the preliminary concepts, that describes the analysis and testing that may be required to show compliance with the new regulatory text.

# *Integration*

- Published ground rules, definitions, assumptions, requirements, and schedules.
- Established an integrated schedule and critical path to meet the milestones.
- Coordinating the perpetration of the interim reports and the final document to ARAC Executive Committee.

# *ARAC Fuel Tank Inerting Harmonization Working Group*

## *Major Milestones*



# *Summary*

- Working Group tasks are on schedule to meet the completion date of July 2001.
- Four productive Working Group meetings have been held to date.
- Common requirements and ground rules have been established.
- Preliminary design concepts have been established.
- Additional task group participation is being sought.
- Design Concepts will be presented at the next Ex-Com update (April 4th, 2001)