



RTCA Paper No. 117-24/SC206-207
EUROCAE Paper No. 176-24/WG76-96

May 31, 2024

Summary of the 75th Meeting
Summary of the 71st Meeting

RTCA Special Committee 206 (SC-206)
EUROCAE Working Group (WG-76)

Aeronautical Information Services (AIS) and Meteorological (MET) Data Link Services

Executive Summary

The joint RTCA SC-206/EUROCAE WG-76 Opening Plenary meeting was held on Monday, April 15, 2024, and the Closing Plenary was held on Friday, April 19, 2024. The meetings were held at the International Air Transport Association (IATA) offices in Geneva, Switzerland.

- The following sub-group activities were briefed:
 - SC-206 SG-4/WG-76 SG-2: Turbulence MASPS
 - SG-4/SG-2 discussions this week resulted in a change in direction for the sub-group
 - SG-4/SG-2 will be recommending a change to the Terms of Reference (TOR)
 - Neither EASA nor FAA Flight Standards will allow Eddy Dissipation Rate (EDR) being generated from an iPad to be included in the MASPS since iPad accelerometers are not FAA certified
 - SG-4/SG-2 will recommend going forward with a new document and address areas that were not addressed in DO-370, specifically the operational comparability of turbulence EDR information
 - One of the SG-4/SG-2 co-chairs stated that this is a document that industry wants (i.e., Standard for turbulence operational comparability to enable exchange of EDR information)
 - SC-206 SG-5/WG-76 SG-3: FIS-B MOPS (DO-358C/ED-XXX)
 - SG-5/SG-3 held their Kickoff meeting on Monday, April 15th
 - Alex Engel and Karan Hofmann will be sending out another Call for Participation
 - SC-206 SG-6/WG-76 MASPS (DO-364A/ED-XXX)
 - There are eighteen remaining open Action Items
 - SG-6 was unable to close the Operational Safety Assessments (OSAs) and Operational Performance Assessments (OPAs) due to the inability to work between sessions because of a lack of availability of subject matter expert (SME) support
 - This will hopefully be corrected by the first of June
 - SG-6's goal is to get the document to Final Review and Comment (FRAC) by August 1st
 - The FRAC period would end around September 16th, which would allow them to begin FRAC resolution during the September Plenary Meeting
 - SG-6 may request a virtual Plenary in January 2025 with the hopes to get the final document to the PMC in March 2025
 - SC-206 SG-9/WG-76 SG-4: AbO RTCA/EUROCAE Report
 - SG-9/SG-4 held their Kickoff meeting on Monday, April 15th
 - The TOR language was reviewed during the opening Plenary

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- There was a question regarding the applicability of water vapor and its relevance to the World Meteorological Organization (WMO) program
 - SG-9/SG-4 discussed the possibility of development of a Memorandum of Understanding (MOU) between RTCA/EUROCAE and WMO
 - RTCA and EUROCAE will investigate a possible MOU between RTCA/EUROCAE and WMO
- Industry briefings were presented on the following topics:
 - Water Vapor and Contrails Update
 - IATA Perspective on Water Vapor Measurements Applicable to Contrails
 - IATA Turbulence Progress
- Next Plenary meeting:
 - June 24-28, 2024 [Boeing – Vancouver, Canada]
 - Joint RTCA SC-206 (Meeting 76)/EUROCAE WG-76 (Meeting 72) Plenary

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Opening Joint RTCA SC-206/EUROCAE WG-76 Plenary Meeting Summary – Monday, April 15, 2024

The meetings this week were held at the IATA offices in Geneva, Switzerland.

Presentations are posted at:

<https://aeropus.i3cloudservices.com/Group/GroupLanding/99?tab=Documents&folder=2024+Meetings%2F1-April+15-19+2024+-+75th+Meeting>

The Opening Plenary convened at approximately 0900 CEST (0300 EDT)

2. Remarks (RTCA/EUROCAE, Chairmen, Host)

- Reference the [2024 April SC206_WG76 Opening Plenary Leadership Slides_final.pptx slides](#)
- Tim Rahmes opened the meeting and welcomed everyone
- Karan Hofmann and Alex Engel provided the briefings on their respective organizations

3. Introduction of Attendees (* denotes remote participation)

- Tim Rahmes The Boeing Company (SC-206 Co-Chair)
- Mark Libant* NAV CANADA (SC-206 Co-Chair)
- Joe Bracken* AvMet Applications, Inc. (SC-206 Secretary)
- Eldridge Frazier FAA, Government Authorized Representative
- Moin Abulhosn FAA
- Louis Bailey The Boeing Company
- Bill Carson The MITRE Corporation
- Alexander Engel EUROCAE (WG-76 Technical Programme Manager)
- Alberto Fornaci* IATA
- Tammy Flowe FAA
- Thomas Gerz German Aerospace Center, DLR
- Karan Hofmann RTCA, Inc. (SC-206 Program Director)
- Steve Hofmann Guest
- Amanda Hoprich AvMet Applications, Inc.
- Rebecca Lawler United Airlines
- Hagay Makov* SkyBus
- Curtis Marshall NOAA/NWS
- Greg Meymaris NCAR
- Jim Mills HQ USAF/DoD
- Mark Phaneuf Air Line Pilots Association, Intl
- Brian Pettegrew The MITRE Corporation
- Martyn Sunter* UKMETNET
- Matt Wiebold Honeywell International, Inc.
- Guy Zunder* SkyPath

4. Review and Approval of Meeting Agenda

- Reference slides 10 - 11 of the [2024 April SC206_WG76 Opening Plenary Leadership Slides_final.pptx slides](#)
- Amanda Hoprich displayed the meeting agenda for the week

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- Tim Rahmes noted that we will be kicking off two new sub-groups this week, and that IATA will be joining the meeting later to provide an update on the IATA Turbulence capability
- There were no objections to the Opening Plenary meeting agenda and the meeting agenda was approved

5. Sub-Groups' Work Plan for the Week

- SC-206 SG-4/WG-76 SG-2: Turbulence MASPS
 - Reference the SG4-2_SC206-WG76_SG2 Opening Plenary Slides_20240415_Final.pptx slides
 - Tammy Flowe presented the SG-4/SG-2 work plan for the week
 - Tammy noted that the co-chairs for this sub-group are Tim Rahmes and Mark Phaneuf
 - Reference Slide 3
 - We will need these various methods to be operationally comparable
 - The metric within ICAO Annex 3 is Eddy Dissipation Rate (EDR), so that will be the common metric
 - Some algorithms will require “messaging” on the ground
 - Reference Slide 4
 - Getting data from the various entities has been challenging due to reported “proprietary” information
 - We hope to get the document to the RTCA Program Management Committee (PMC) and the EUROCAE Council by September 2025
 - Reference Slide 7
 - Tammy displayed an updated schedule slide and noted that they have an aggressive timeline to get to FRAC by March 2025 and to the PMC/Council by September 2025
 - If SG-4/SG-2 requests a 6-month delay, that will push FRAC to September 2025 and presentation to the PMC/Council by March 2026
 - This delay will be discussed during the SG-4/SG-2 meetings this week
 - Tim commented that this is not a trivial task in that they are addressing entirely different approaches
 - There will be challenges as the MASPS matures
 - Mark Libant asked, with respect to the 6-month delay, what caused the delay
 - Tammy replied that SG-4/SG-2 had always planned for a 2-year timeframe
 - They are encountering a delay in obtaining some of the necessary data
- SC-206 SG-6 / WG-76 MASPS (DO-364A/ED-XXX)
 - Reference the Sg6_WG76_April2024_Agenda_v3.pptx slides
 - Eldridge Frazier presented the SG-6 work plan for the week
 - Eldridge noted that the co-chair is Louis Bailey of The Boeing Company
 - Reference Slide 7
 - SG-6 is attempting to wrap up the document to get it ready for FRAC release approval during the June 2024 Plenary Meeting
 - The proposed SG-6 meeting in May 2024 will not occur
 - The OPA / OSA work is behind schedule due to the lack of availability of SME support
 - SG-6 is attempting to rectify the availability issue before the June Plenary and SG-6 will adjust their schedule to compensate for any delay
 - The goal is to have the document ready for FRAC resolution and approval to release to the PMC/Council by December 2024
 - Alex Engel noted that “formally”, they only need to allow for a 45-day review during FRAC

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- Therefore, we could move the July date by fifteen days and keep the end of FRAC in September
- We cannot go below a 45-day review, but 60 days is not required
- Eldridge responded that they may consider that option
- Karan Hofmann concurred and noted that 60 days is not required on RTCA's side either
- Eldridge noted that if we cut the review period to 45 days, we may get less comments, which might lead to issues after the document is approved
- Tim Rahmes asked about human resources available for the week given that several individuals are unavailable
 - Manpower is an issue now that we have stood up four separate sub-groups
- SC-206 SG-9/WG-76 SG-4: AbO RTCA/EUROCAE Report
 - Formal kickoff of SG-9/SG-4 will take place at 1500 CEST (0900 EDT)
 - Matt Wiebold presented the TOR language associated with this effort

RTCA SG9/SG4 Aircraft Based Observations (ABO) Report

Title: Aircraft Based Observations Standards Development Recommendations

Due: June 2025

TOR Language: Recommendation(s) to the PMC regarding possible standards development work associated with aircraft-based meteorological observations and supported existing and emerging applications, including those for wake turbulence proximity, air traffic management and control, and weather forecasting purposes. The study team shall consider the performance of applications and systems providing aircraft-based meteorological observations and any requirements for supported applications. SC-206 will recommend to the PMC what standards development work may be needed to support such applications. SC-206 will coordinate with other aviation and weather community stakeholders as necessary to determine the best path forward.

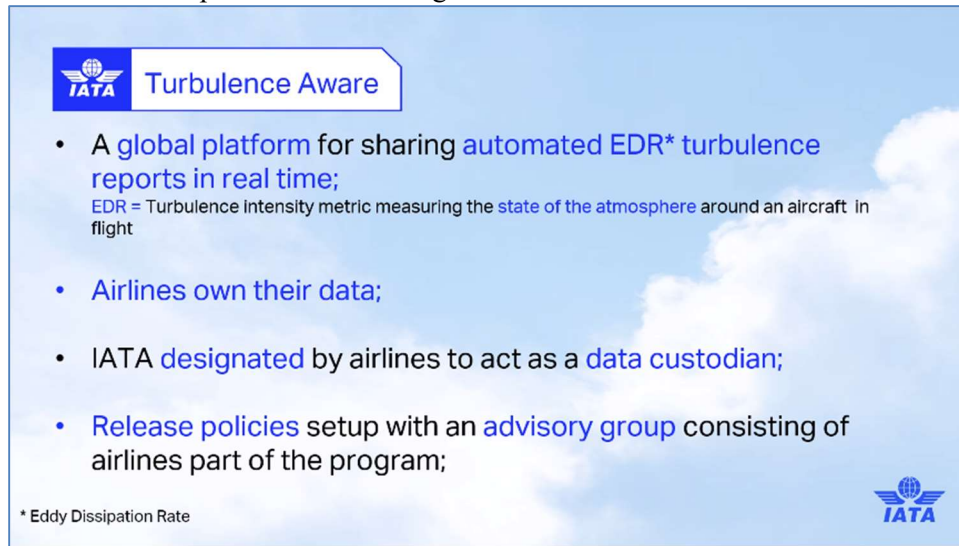
- Eldridge Frazier noted that this effort has to remain data link-agnostic as the document is developed
- Louis Bailey commented that we have to gather “considerations” and asked if the literature review will identify what is available today
 - Matt responded in the affirmative
 - Louis added that the industry would benefit from a consolidation of what is being downlinked now, and how that is occurring
 - This would be a “treasure-trove of information the industry could use
 - Tammy Flowe added that discussions with the WMO will help also as they have done a lot of that work already
 - Matt noted that that is something they may want to mention during the Kickoff
 - The WMO has a detailed document that summarizes what is out there today
 - Tim commented that the nice thing with this effort is that it will be developing a White Paper
 - They will “canvas” the community and the various stakeholders on what SG-9/SG-4 is looking to do
 - Karan Hofmann noted that there is one caveat per the TOR as this will be an internal report with no FRAC process

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- This document will not be published outside of RTCA/EUROCAE and will not be available in the RTCA/EUROCAE document store
- Alex Engel added that this will be an internal report only
 1. This is for the PMC and Technical Advisory Committee (TAC) to decide on starting a new activity
- Matt added that this effort will generate the core of the material
- Rebecca Lawlor added that there will be a lot of lessons learned from the survey and will identify the knowledge gaps
 - The audience of the survey will be discussed and determined this week
- Tammy stressed that this effort will find that a lot of this work has already been done by WMO

6. Industry Coordination:

- IATA Turbulence Progress
 - Reference the [2024 IATA RTCA presentation.pdf](#) slides
 - Alberto Fornaci provided the briefing



The slide features a blue background with white clouds. At the top left is the IATA logo and the text "Turbulence Aware". The main content consists of four bullet points in blue text. At the bottom left, there is a footnote: "* Eddy Dissipation Rate". At the bottom right is the IATA logo.

- A global platform for sharing automated EDR* turbulence reports in real time;
EDR = Turbulence intensity metric measuring the state of the atmosphere around an aircraft in flight
- Airlines own their data;
- IATA designated by airlines to act as a data custodian;
- Release policies setup with an advisory group consisting of airlines part of the program;

* Eddy Dissipation Rate

- Alberto reported that the Program started in 2016
 - The Platform was developed in 2018 and launched in 2020
- The following slide depicts an example of data being shared

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What is weather data?

Parameter	Explanation	Example
Observation Time	Time of report in UTC	2020-05-13t00:00:00Z
Altitude	Altitude Above Sea Level in feet	35,000 ft
Latitude	Geographical coordinate of the report for latitude	22
Longitude	Geographical coordinate of the report for longitude	120
Peak EDR	Maximum EDR value in the calculation	0.37
Mean EDR	Average EDR value of the calculation	0.12
Wind Speed	Wind speed in knots	40kt
Wind Direction	Wind direction in radial degrees	270°
Static Air Temperature	Temperature in degrees Celsius	-55.0°C

Additional data is collected but not shared to keep the data de-identified and meet the data release policy as agreed with the airlines.

9

- Reference Slide 13, Greg Meymaris noted that the B767 should be included in the Boeing column

OEM implementation status

AIRBUS

A350 Airbus

A330 NEW Airbus In-house Teledyne

A32X NEW Airbus In-house Teledyne

BOEING

B737MAX Boeing In-house Teledyne

B737NG In-house Teledyne

B777 Boeing

B787 Boeing

13
4/15/2024

- Reference Slide 24, Alberto displayed several upcoming activities
 - Questions should be directed to iataturbulence@iata.org



What's next

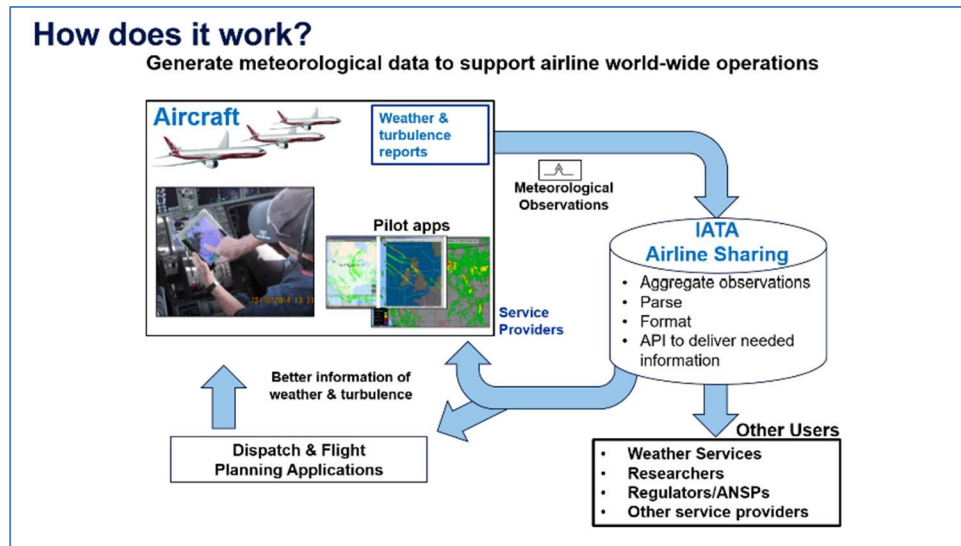
- Business Aviation
- IATA Aviation Day, May 7- 8, 2024 Hong Kong
- Turbulence Data Science Workshop, May 2024
- WEBINAR for ASPAC Airlines, April 2024
- Turbulence Aware User Forum – Fall 2024
- ADVISORY GROUP in the making – Stay tuned!

24 15 April 2024 IATA

- Questions
 - Tammy Flowe asked if there are any more details on the workshop in May 2024
 - Alberto indicated that he would share the details and put everyone in touch with the individuals managing the Forum
 - This Workshop will be sponsored by the University of Montreal
 - Alberto reported that IATA and Air Canada normally participate
 - Eldridge Frazier congratulated Alberto on the great work and on the density of the information being collected
 - Eldridge asked if anyone is tracking the information going to the cockpit
 - Alberto responded that they are working with one specific airline
 1. They may need to look at the aircraft response to EDR being reported, as this is a known matter to address
 2. They need to discuss this with their Advisory Group to obtain input from more airlines
 - Mark Libant asked if there are any Air Navigation Service Providers (ANSPs) that would be interested in joining IATA
 - Alberto responded in the affirmative and indicated that they are in discussions with a few of them
 - This is being considered
 - There is also an ANSP that has been consuming data for the past few years
 - Alex Engel asked, with respect to Slide 9, how many calculations are taking place and how much data is involved
 - Alberto responded that the algorithm estimates EDR every ten seconds and samples data at 8 Hertz
 - At the end of five seconds, there is an estimate of EDR
 - Every minute, there are twelve EDR estimates
 - There is a calculation for Minimum EDR and is given a weighted average
 - Rebecca Lawlor asked if IATA plans to transmit wind speed and wind direction from other models
 - Alberto responded in the affirmative as there are a number of agencies, in addition to forecasters and academia, that are interested in wind speed, wind direction, and static temperature

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- Louis Bailey asked, with respect to turbulence forecasting, if that information is being “shipped off” to improve forecasting models
 - Alberto responded in the affirmative
 - They are working with the United Kingdom (UK) Meteorological (Met) Office
 - They are not consuming live data, but are accessing archived data to validate their models
 - There are two other organizations considering accessing the information
- Curtis Marshall asked if IATA has looked at comparing the availability of volume of wind/temp information as compared to onboard data collection worldwide (e.g., MDCRS)
 - Alberto responded that they are looking to do that and have just kicked off that branch of work last month
- Martin Sunter asked if IATA has given any thought to national weather services accessing the information
 - Alberto responded that that is difficult to answer
 - If IATA shares the data, there is no incentive to join the program
 1. This has been considered, but only on select areas
 - This would have to be addressed by the Advisory Group
 - They are working with a number of weather data providers and airlines that are customers of those providers as they could have access to IATA data
 - Tammy Flowe commented that the US National Weather Service (NWS) uses EDR data that the FAA gets from several airlines to create their models
 1. Tammy does not believe the NWS can use IATA data unless the airlines that provide the information say it is okay
 - a. Albert concurred and noted that an airline must agree to share their data with the forecasters
 2. Tammy added that it would be “really nice” if Moderate or Severe turbulence reports could be provided to any airline that is operating
 - a. Alberto commented that they could have this discussion with the Advisory Group
 - b. Tammy volunteered to be a part of that group
- Tim Rahmes then provided a short update on the Boeing Weather and EDR Turbulence Reporting status
 - Reference the [IATA_Rahmes_20240310_update.pdf](#) slides
 - Reference Slide 3



- Eldridge Frazier asked, from a pilot standpoint, if they can interpret this as it appears to be complicated
 - Tim responded that there are a lot of ways this could be done (i.e., similar displays of color)
 - Tim noted that they are using similar displays at Delta Air Lines and love it
 1. Tammy added that that is because they are used to it and trained to it
 2. Alberto commented that this is why IATA is looking into “heat maps” to reduce pilot workload
- Reference Slide 10

Conclusion/Next Steps

- Continued data sharing is key to getting full value from these observations, as it helps create the “full solution” for customer use
- Continued growth outside US needed
- As an industry, we need more aircraft types and from other segments to contribute to the available data
- Mature our plans for meteorological parameters beyond turbulence (e.g. water vapor)
- Standards/Regulatory:
 - RTCA/EUROCAE: We are working towards determination of EDR from other data inputs
 - Perhaps need to refine the intensity thresholds in ICAO annex 3 (light, moderate, severe) for airplane size

- Hagay Makov questioned the last Conclusion/Next Steps bullet
 - Tim responded that that is something that was discussed a year or two ago
 - Tammy added that they have changed thresholds at least twice
 1. The data available last time recommendations were made is not as ubiquitous as it is today, and with the increase in data, they could refine the thresholds even better today
 2. Hagay concurred

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7. Future Meetings, Plans, and Dates

- The following table of future meeting dates/locations was discussed

Future Meetings		
Plenary Meetings		Open items Differs from TOR See next slide for location addresses
Plenary Meeting Dates	Plenary Meeting Locations (Hosts)	Notes
24-28 June 2024	Vancouver, Canada (Boeing - Louis)	Joint WG-76/SC-206 Plenary
16-20 September 2024	Westminster or Bristol, United Kingdom (Boeing - Louis); backup Brussels, Belgium (EUROCONTROL - Alex)	Joint WG-76/SC-206 Plenary
2-6 December 2024	Palm Bay, Florida, USA (L3 Harris - Paul)	Joint WG-76/SC-206 Plenary (DO-364A/ED-XXX FRAC resolution)
x-x March 2025	TBD Europe	Joint WG-76/SC-206 Plenary
x-x June 2025	TBD North America	Joint WG-76/SC-206 Plenary (Turb MASPS FRAC resolution) / (RTCA Report)
x-x September 2025	TBD Europe	Joint WG-76/SC-206 Plenary (DO-358C/ED-XXX FRAC resolution)
SG/WG Meetings		
SG/WG Meeting Dates	SG/WG Meeting Locations (Hosts)	Notes

- June 2024 Meeting
 - Louis Bailey reported that the Boeing welcome letter for the Vancouver meeting has been developed, distributed, and posted to the AerOpus site
 - Louis added that hotel rates are a little higher and those planning to attend are encouraged to make hotel reservations soon
 - Voice / sound checks have been conducted at the site
 - Jim Mills asked Eldridge about the SME support issues for key SG-6 individuals to attend
 - Eldridge reported that SME support issues should be taken care of by then
 - Eldridge added that there is an issue with those individuals' ability to work between meetings
- September 2024 Meeting
 - Louis reported that he has the approvals in place for use of the UK Bristol office
 - We need to make a decision on the location for the September 2024 meeting
 - Bristol is more affordable than Brussels from a per diem perspective
 - Tammy asked if we are required to be at RTCA for this meeting
 - Karan responded that it has been a year since we have met at RTCA Headquarters, and that has been "noted" internally
 - RTCA headquarters must be on the docket as a meeting venue
 - Alex added that the Committee should also meet at EUROCAE Headquarters once within each calendar year
 - It was noted that Bristol is a cheaper venue than Brussels with respect to per diem
 - Eldridge suggested holding the June 2025 meeting at RTCA Headquarters in Washington, DC
- March 2025 Meeting
 - Alex Engel indicated that he would check on the availability to host the March 2025 Plenary in Brussels
 - Mark Libant noted that he is still checking on Malaga, Spain to host in March 2025
 - Mark added that he should know in a few weeks
 - The week of 17-21 March was chosen
- June 2025
 - The dates chosen for the June 2025 meeting were 9-13 June

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- **Action: Karan Hofmann to check on the availability to host the June 2025 Plenary at RTCA Headquarters in Washington, DC**

8. Other Business

- No new business was added

9. Work Plan for Week of Sub-Group: (con't)

- SC-206 SG-5/WG-76 SG-3: FIS-B MOPS (DO-358C/ED-XXX)
 - Reference the [SG5 Kickoff 2024April15.pdf](#) slides
 - Jim Mills provided the briefing
 - Reference Slide 9
 - Tim Rahmes asked if the Turbulence Nowcast line item is referring to required reporting levels
 - Eldridge commented that icing and turbulence are looking at a refined grid
 - Tammy Flowe added that we will get whatever the Aviation Weather Center (AWC) presents, and we are not developing anything new
 - Eldridge noted that a lot of things in weather are notional
 - We are getting ahead of the curve and putting things out there before there is money to implement them
 - Tammy added that for icing and turbulence, we have already defined the requirements and what the FAA has already decided
 - We are not making any changes

10. Adjourn

- The Opening Joint Plenary session adjourned at approximately 1200 CEST (0600 EDT) on Monday, April 15, 2024

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Closing Joint RTCA SC-206/EUROCAE WG-76 Plenary Meeting Summary – Friday, April 19, 2024

The meetings this week were held at the IATA offices in Geneva, Switzerland.

Presentations are posted at:

<https://aeropus.i3cloudservices.com/Group/GroupLanding/99?tab=Documents&folder=2024+Meetings%2F1-April+15-19+2024+-+75th+Meeting>

The Closing Plenary convened at approximately 0900 CEST (0300 EDT)

1. Remarks (RTCA/EUROCAE, Chairmen, Host)

- Reference the 2024 April SC206 WG76 Closing Plenary Leadership Slides_final.pptx slides
- Mark Libant opened the meeting
- Karan thanked the hosts, Stuart Fox and Emily Boutler for their support this week as well as Juan-Carlos Sanchez for his IT support
- Karan Hofmann and Alex Engel provided the briefings on their respective organizations
- Alex Engel thanked all of the participants for their involvement
- Karan announced that this will be her last face-to-face meeting as she will be retiring in November 2024

2. Introduction of Attendees (* denotes remote participation)

- Mark Libant, Co-Chair NAVCANADA
- Tim Rahmes The Boeing Company
- Joe Bracken, Secretary* AvMet Applications, Inc.
- Eldridge Frazier FAA, Government Authorized Representative
- Moin Abulhosn FAA
- Louis Bailey The Boeing Company
- Alejandro Block IATA
- Emily Boutler IATA
- Bill Carson The MITRE Corporation
- Alexander Engel EUROCAE (WG-76 Technical Programme Manager)
- Tammy Flowe FAA
- Stuart Fox IATA
- Thomas Gerz German Aerospace Center, DLR
- Izabela Gheorghisor The MITRE Corporation
- Karan Hofmann RTCA, Inc. (SC-206 Program Director)
- Amanda Hoprich AvMet Applications, Inc.
- Hagay Makov SkyPath
- Curtis Marshall NOAA/NWS
- Greg Meymaris National Center for Atmospheric Research (NCAR)
- Stuart McKay* UK CAA
- Jim Mills HQ USAF/DoD
- Mark Phaneuf Air Line Pilots Association, Int'l
- Martyn Sunter* UKMETNET
- Jean-Luc Thirion DSNA
- Matt Wiebold* Honeywell International, Inc.

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3. Review and Approval of Meeting Agenda
 - Reference Slide 10 of the 2024 April SC206_WG76 Closing Plenary Leadership Slides_final.pptx slides
 - Mark Libant made a motion to approve the Closing Plenary meeting agenda
 - Tim Rahmes seconded the motion
 - The meeting agenda was approved

4. Review and Acceptance of Minutes of WG-76 Meeting 70/SC-206 Meeting 74 (December – Phoenix, Arizona)
 - Joe Bracken reported that the subject document was uploaded to AerOpus on January 24th
 - All comments received were adjudicated
 - There were three (3) industry updates provided and topics discussed during the December Plenary
 - Advanced Air Mobility (AAM) Update
 - Trajectory Based Operations
 - Machine Learning
 - Ten (10) action items were closed during the Plenary and five (5) new action items were identified
 - A motion was made to accept the December 2023 Plenary minutes
 - The motion was seconded
 - The December 2023 Plenary minutes were approved

5. Report of Sub-Groups:
 - SC-206 SG-4/WG-76 SG-2: Turbulence MASPS
 - Reference the SG4-2_SC206-WG76_SG2 Closing Plenary Slides_20240419_v2.pptx slides
 - Tammy Flowe provided the update
 - Tammy noted that it was an interesting week, and that there has been “a bit of a change in direction” as a result of the discussion with a representative from FAA Flight Standards
 - Kurt Steifel participated in the discussion at Eldridge Frazier’s request
 - SG-4/SG-2 will be recommending a change to the TOR
 - SG-4/SG-2 has heard from EASA and now FAA Flight Standards
 - Neither will allow EDR being generated from an iPad to be included in the MASPS since iPad accelerometers are not FAA certified
 - Initially SG-4/SG-2 had pushback from EASA
 - Tammy reported that this was not a surprise, but it was good that it occurred
 - Tammy noted that they are going to recommend going forward with a new document, with a new name, and address areas that were not addressed in DO-370, specifically the operational comparability of turbulence EDR information
 - This will include post calculations and derivation assurance
 - The longer-term plans are a function of available resources
 - They would like to address additional use cases (e.g., wake turbulence)
 - From the FAA’s perspective, we are not sure how much additional effort will be necessary in the long term
 - Eldridge asked what type of regulatory document SG-4 is anticipating
 - Tammy responded that they are anticipating an Advisory Circular (AC) to which Eldridge noted that ACs are developed by the FAA
 - Tammy clarified that they could create another guidelines document, but it will not be a MASPS or MOPS
 - Eldridge noted to Moin Abulhosn that the FAA AVS Government Authorized Representative (GAR) wants to know the type of RTCA document that will be invoked

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- AVS' concern is to ensure that the RTCA document is invokable
- Tammy commented that the final document could be a MASPS, but it will not include the SkyPath capability
- Karan Hofmann noted that what goes into the RTCA documents is approved by the PMC, and includes FAA and industry input
 - SG-4/SG-2 was intending to create a MASPS as it was stated in the White Paper and approved by the PMC
 - It is the PMC, TAC, and the TOR that gives the guidance to the sub-group
- Tammy commented that we could put the SkyPath capability in the MASPS, but the FAA would not invoke it
 - Eldridge stressed that our work has to be invokable
- Alex Engel asked what the official title of the document would be
 - Tammy responded that they are unsure at this time, but it may be another White Paper, guidelines document, or something else
 - This will be a performance requirements document, but the title is still To Be Determined
 - Karan noted that if we take this back to the PMC, they are going to ask what type of document this will be
 - Perhaps we could refer to it as a Report
 - Reports may or may not be FRAC'ed
 - Tammy stressed that this document will need to be referenced by the regulators
 - Tammy added that the difficulty is that the "thing" we are building requirements for is not a box, which is hard to build standards around
 - Karan stated that the document has to be classified as some sort of RTCA/EUROCAE document
 - Tammy asked if a research report can be invoked
 - Moin responded in the affirmative
 - Eldridge suggested that we have to get a reading from the RTCA AVS GAR on what can be invoked
 - Tammy stressed that the industry wants something (i.e., a Standard for turbulence operational comparability to enable exchange of EDR information)
 - This is a difficult topic, and we have to think outside the box
 - This is about algorithms and new technologies being deployed today
 - We need to create something that Moin can invoke
 - **Action: Tammy Flowe, Tim Rahmes, Mark Phaneuf, Eldridge Frazier, and Karan Hofmann to meet with the RTCA Government Authorized Representative (Bruce DeCleene) regarding the change in scope for SG-4/SG-2 and what type of document would be invokable by the FAA**
 - Tammy Flowe, Tim Rahmes, Mark Phaneuf, Eldridge Frazier, Karan Hofmann
- Reference Slide 7
 - Tim Rahmes noted that there is no change to the scope of this work, just a change to the title
- Alex offered that we could refer to the final document as a "Technical Specification" document
 - Tammy asked if there is an RTCA-equivalent to a EUROCAE Technical Specification
 - Karan responded that she would need to look at RTCA-equivalent document types
 - **Action: As it relates to the SG-4/SG-2 activity, Karan Hofmann to look for RTCA equivalent document to EUROCAE "technical specification"**
- Bill Carson noted that multiple documents have been written to date on this

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- Tammy responded that post-derivation Quality Assurance (QA) was not taken into account in DO-370
 - We want to make new test datasets to correspond to new technologies
- It was suggested that Brad Miller be available at the next meeting to provide a presentation

- SC-206 SG-5/WG-76 SG-3: FIS-B MOPS (DO-358C/ED-XXX)
 - Reference the [SG5 Closing Plenary_2024April19.pdf](#) slides
 - Jim Mills provided the briefing
 - SG-5/SG-3 held their Kickoff meeting on Monday, April 15th
 - Alex Engel and Karan Hofmann will be sending out another Call for Participation

- SC-206 SG-6/WG-76: MASPS (DO-364A/ED-XXX)
 - Reference the [Sg6_WG76_April2024_Agenda_Closing_20240419.pptx](#) slides
 - Eldridge Frazier provided the briefing
 - The sub-group completed all their goals for the week
 - There are eighteen remaining open Action Items
 - SG-6 is unable to close the OSAs and OPAs due to the inability to work between sessions because of a lack of availability of SME support
 - This will hopefully be corrected by the first of June
 - Tammy Flowe added that it is not that they do not have the funding; it just has not “trickled down” to their office yet
 - Eldridge added that SG-6’s goal is to get the document to FRAC by August 1st
 - The FRAC period would end around September 16th, which would allow them to begin FRAC resolution during the September Plenary Meeting
 - SG-6 may request a virtual Plenary in January 2025 with the hopes to get the final document to the PMC in March 2025
 - Jim Mills asked if there is a thirty-day notice required prior to FRAC
 - Karan responded that the thirty-day notice is for agenda publication for Plenary Meetings
 - A decision for FRAC will be made mid-week in June to meet the thirty-day notice requirement for the optional July 26th virtual Plenary

- SC-206 SG-9/WG-76 SG-4: AbO RTCA Report
 - Reference the [2024 April SC206_WG76 Closing Slides SG-9.pptx](#) slides
 - Tim Rahmes provided the briefing
 - Tim noted that we reviewed the TOR during the opening Plenary
 - There was a question regarding the applicability of water vapor and its relevance to the WMO program
 - SG-9/SG-4 discussed the possibility of development of a MOU between RTCA and WMO
 - Mark Phaneuf indicated that ALPA concurs and thinks it would be a good idea to have an MOU with WMO and to formalize this relationship going forward
 - Karan Hofmann indicated that she would have to speak with the President of RTCA on the topic of developing a formal MOU
 - **Action: Karan Hofmann and Alex Engel to investigate a possible MOU between RTCA/EUROCAE and WMO**

6. Industry Coordination

- Water Vapor and Contrails Update
 - Reference the [IATA-Sensors.pptx](#) slides
 - Alejandro Block Novelo provided the status update

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- Alejandro noted that contrails have become an important topic
- They have spent six to eight months speaking with climate scientists and informed them that they are lacking data
- Reference Slide 9
 - Alejandro noted the types of Aircraft Based Observations (AbO) used for meteorological purposes
 - AMDAR
 - Mode-S
 - ADS-C
 - TAMDAR
- Tim Rahmes raised a discussion topic regarding Memorandums of Understanding (MOU)
 - An MOU between RTCA and WMO was discussed
 - There is an existing MOU between IATA and the WMO
 - With this existing MOU, this is starting to satisfy some of the water vapor issues
 - Tim asked if there are any next steps between IATA and WMO
 - Alejandro then presented Slide 10
- Tim noted that it is important to have accurate water vapor measurements and know where the aircraft are flying
 - Alejandro concurred
- Matt Wiebold asked when the report will be publicly available
 - Alejandro responded that they are anticipating the beginning of May 2024, and that he will share a link as soon as the report is out
- Curtis Marshall commented that there have recently been some new developments on Water Vapor Sensing System (WVSS) sensor installations and asked if there is market incentive for operators to install the sensors
 - Alejandro responded that there are so many uncertainties, so not right now
 - Curtis asked if, for the time being, Meteorological Services will be putting up the capital for sensor deployment
 - Alejandro responded that this is not the only way
 - There are other funding streams available
- Martyn Sunter noted that the UK Met Office is investing in sensors for a regional airline in the UK
 - The driver is to improve weather forecasting in the UK
 - The benefits to the users include improved weather forecasts, hazardous weather avoidance, and several environmental benefits
- Reference Slide 8
 - Tim asked, from an airline perspective, if the desire is to get the science right (i.e., more observations), are the airlines willing to equip their aircraft to improve the science or for their own benefit
 - Alejandro responded that the airlines want to be constructive on this conversation and are interested in improving the science
- Advanced Air Mobility (AAM) Update
 - There was no update at this time
- IATA Perspective on Water Vapor Measurements Applicable to Contrails
 - There was no additional update as this material was discussed during the Water Vapor and Contrails update

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7. Terms of Reference

- Update to WG-76 Turbulence MASPS Task Sheet
 - Alex Engel provided the update
 - Alex noted that the TAC asked for a note to be added to their TOR to ensure that there was no contradiction between EUROCAE and the MOPS related to EFBs
 - Alex added that the task sheet will become void if we change the scope and direction of SG-4/SG-2
 - However, there is no action at this time
 - Tammy Flowe asked if there will be any issues with the TAC as a function of the change in direction on the part of SG-4/SG-2
 - Alex responded that the discussion with the TAC may become easier as the scope change may be closer to what the TAC initially wanted

8. Future Meetings, Plans, and Dates

- The following table of future meeting dates/locations was discussed

Plenary Meeting Dates		Plenary Meeting Locations (Hosts)	Notes
24-28 June 2024	Vancouver, Canada (Boeing - Louis)		Joint WG-76/SC-206 Plenary
16-20 September 2024	Bristol, United Kingdom (Boeing - Louis); backup Brussels, Belgium (EUROCONTROL - Alex)		Joint WG-76/SC-206 Plenary
2-6 December 2024	Palm Bay, Florida, USA (L3 Harris - Paul)		Joint WG-76/SC-206 Plenary (DO-364A/ED-XXX FRAC resolution)
17-21 March 2025	Malaga, Spain (Mark L), Brussels, Belgium (EUROCONTROL - Alex) or Toulouse, France (Airbus - Macarena)		Joint WG-76/SC-206 Plenary
9-13 June 2025	Washington, DC (RTCA-Karan)		Joint WG-76/SC-206 Plenary (Turb MASPS FRAC resolution) / (RTCA Report)
x-x September 2025	TBD Europe		Joint WG-76/SC-206 Plenary (DO-358C/ED-XXX FRAC resolution)

SG/WG Meetings		SG/WG Meeting Locations (Hosts)	Notes

- June 2024 Meeting Logistics
 - The meeting arrangements have been made and Louis Bailey has sent out transportation information via email
- September 2024
 - Louis Bailey is in contact with his office, and they indicated that it looks like this venue will be available
 - Matt Wiebold indicated that SG-9/SG-4 is still polling their membership and will get back to Louis on their attendance plans and the need for conference room space
 - Louis noted that he will make accommodations for SG-9/SG-4 and cancel later if necessary
 - Alex Engel noted that he has reserved conference rooms in Brussels as backup and will not release them until he hears back from Louis about the Bristol location
- December 2024
 - Karan Hofmann commented that the audio check at the Palm Bay, Florida venue has been completed
 - Jim Mills added that conference rooms have been reserved

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- With the holiday season being around that time, we will ask the attendees to make their arrangements soon after the September Plenary meeting
- March 2025
 - Mark Libant indicated that he is waiting for a response from his contacts regarding the Malaga venue
 - Alex Engel added that conference rooms at the Brussels location are available, but they have not been reserved
 - **Action: Alex Engel to reserve three conference rooms (one large, two small) in Brussels as backup for the March 2025 Plenary**
- June 2025
 - Karan Hofmann indicated that conference rooms have been reserved at RTCA Headquarters in Washington, DC for the June 2025 Plenary
- September 2025
 - No decision was made at this time as to a potential venue

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11. Action Items Review

- Action Item 423
 - This Action Item was reassigned to the SG-9/SG-4 Leadership
 - Matt Wiebold concurred
 - Karan Hofmann noted that the current Chairman of SC-230 will be retiring in July 2024
 - SG-9/SG-4 Leadership should use Dawn Gidner as their SC-230 point of contact
- Action Item 424
 - This action item was closed
- Action Item 434
 - This action item was closed
- Action Item 435
 - This action item was closed
- Action Item 436
 - This action item was closed
- Action Item 437
 - This action item was closed
- Action Item 438
 - This action item remained Open
- Action Item 439
 - This action item was opened and closed during the Plenary session
- Action Item 440
 - This action item is Open
- Action Item 441
 - This action item is Open
- Action Item 442
 - This action item is Open
 - Tammy Flowe will coordinate with Curtis Marshall and get back to Karan Hofmann sometime next week
 - Karan indicated that she will not approach Carol Huegel until she hears back from Tammy, Tim, Matt, and Rebecca on draft MOU language
- Action Item 443
 - This action item is Open
- Five new Plenary action items were identified during the Opening and Closing Plenary sessions and are shaded in green below

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- The current SC-206/WG-76 Plenary Action Item list is as follows:

#	Owner	Action	Date	Due Date	Status
Open Action Items					
423	SG-9/SG-4 Leadership	Collaborate with SC-230 leadership (Dawn Gidner) on the value of onboard weather radar for datalink observations	Reassigned April 2024		Open
424	SG-4/SG-2 Leadership	Develop the Turbulence MASPS scope text for the EUROCAE TAC review in January 2024	September 2023	January 2024	Closed April 2024
434	Karan Hofmann Alex Engel	Revise Recording policy slide to make this a joint RTCA/EUROCAE slide	December 2023	April 2024	Closed April 2024
435	Alex Engel	Crosscheck the changes in the SC-206 TOR against the WG-76 TOR documents for consistency	December 2023	January 2024	Closed April 2024
436	Paul Freeman	Look into L3Harris hosting the December 2024 Joint Plenary	December 2023	April 2024	Closed April 2024
437	Mark Libant	Send hotel recommendations and facility description for the meeting in Edmonton, Canada in June 2024	December 2023	April 2024	Closed April 2024
438	Mark Libant	Check into hosting the March 2025 Plenary Meeting in Malaga, Spain	December 2023	April 2024	Open
439	Karan Hofmann	Check on the availability to host the June 2025 Plenary at RTCA Headquarters in Washington, DC	April 2024		Closed April 2024
440	Tammy Flowe Eldridge Frazier Tim Rahmes Mark Phaneuf Karan Hofmann	Meet with the RTCA Government Authorized Representative (Bruce DeCleene) regarding the change in scope for SG-4/SG-2 and what type of document would be invocable by the FAA	April 2024		Open
441	Karan Hofmann	As it relates to the SG-4/SG-2 activity, look for RTCA equivalent document to EUROCAE “technical specification”	April 2024		Open
442	Karan Hofmann Alex Engel	Investigate possible MOU between RTCA/EUROCAE and WMO	April 2024		Open

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443	Alex Engel	Reserve conference rooms (one large, two small) in Brussels as backup for the March 2025 Plenary	April 2024		Open
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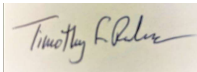
12. Other Business

- No new business was raised

13. Adjourn

- The Closing Plenary adjourned at approximately 1130 CEST (0530 EDT) on Friday, April 19, 2024

CERTIFIED as a true and accurate summary of the meeting.



Tim Rahmes, SC-206 Co-chair



Mark Libant, SC-206 Co-chair



Joe Bracken, SC-206 Secretary

Macarena Martin-Viton, WG-76 Secretary