



RTCA Paper No. 001-24/SC206-203 EUROCAE Paper No. 395-23/WG76-93 January 25, 2024

Summary of the 74th Meeting Summary of the 70th 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, December 4, 2023, and the Closing Plenary was held on Friday, December 8, 2023. The meetings were held at the Honeywell Aerospace offices in Phoenix, Arizona.

- The following sub-group activities were briefed:
 - o SC-206 SG-4/WG-76 SG-2: Turbulence MASPS
 - SG-4/SG-2 did not meet this week, however one of the co-chairs briefed the Plenary participants on the outcome of their November meeting
 - SG-4/SG-2 will be allowing for output into an Eddy Dissipation Rate (EDR) format for all techniques being evaluated
 - A scope change to the effort will include temporarily mounted Portable Electronic Devices (PEDs)
 - New technologies being considered include:
 - Optical air data
 - Temporarily mounted PEDs that are stable
 - Relevant data coming from Automatic Dependent Surveillance-Broadcast (ADS-B) / Mode-S
 - Presentations for several of the week's meeting accomplishments can be found on the AerOpus site
 - o SC-206 SG-6/WG-76: MASPS (DO-364A/ED-XXX)
 - SG-6 achieved most of their goals for the week. However, SG-6 was not able to look at the D-ATIS Operational Performance Assessment (OPA) and were not able to complete all of the Operational Safety Assessment (OSA)/OPA action items this week
 - The meeting in Brussels in January 2024 is a working group meeting to get the document ready for Final Review and Comment (FRAC) by mid-April 2024
 - The critical path to completion is through the OSAs and OPAs
 - Information within Appendix B and C will "roll up" into Section 3 of the document
 - They are attempting to get the document and all inputs to Amanda Hoprich by March 11, 2024
 - The intent is to get the document out to FRAC in May 2024 in order to obtain comments in time for the June 2024 meeting in Edmonton
- Terms of Reference (TOR)

- Revisions to TOR Version 22 were approved at the Opening Plenary session and will be presented to the RTCA Program Management Committee (PMC) on December 14, 2023 and to the EUROCAE Technical Advisory Committee (TAC) in January 2024
- Industry briefings were presented on the following topics:
 - o Advanced Air Mobility (AAM) Update
 - o Machine Learning
- Next Plenary meeting:
 - o April 15-19, 2024 [IATA Geneva, Switzerland]
 - Joint RTCA SC-206 (Meeting 75)/EUROCAE WG-76 (Meeting 71) Plenary

Opening Joint RTCA SC-206/EUROCAE WG-76 Plenary Meeting Summary – Monday, December 4, 2023.

The meetings this week were held at the Honeywell Aerospace facility in Phoenix, Arizona.

Presentations are posted at:

https://aeropus.i3cloudservices.com/Group/GroupLanding/99?tab=Documents&folder=2023+Meetings%2F4-December+4-8%2C+2023+-+74th+Meeting

The Opening Plenary convened at approximately 0830 MST (1630 CET, 1030 EST)

- 1. Remarks (RTCA/EUROCAE, Chairmen, Host)
 - Reference the 2023 Dec SC206 WG76 Opening Plenary Leadership Slides final.pptx slides
 - Mark Libant opened the meeting and welcomed everyone
 - Karan Hofmann and Alex Engel provided the briefing on their respective organizations
 - Action: Karan Hofmann and Alex Engel to revise the Recording policy slide to make this a joint RTCA/EUROCAE slide
 - Karan reported that Terry McVenes will be retiring in January 2024
 - o The new president, Carol Huegel, will be overlapping duties with Terry until January 2024
 - o Carol is very experienced with RTCA and has served on the Advisory Board
- 2. Introduction of Attendees (* denotes remote participation)

• Tim Rahmes* The Boeing Company (SC-206 Co-Chair)

• Mark Libant NAVCANADA (SC-206 Co-Chair)

Joe Bracken* AvMet Applications, Inc. (SC-206 Secretary)
 Eldridge Frazier FAA, Government Authorized Representative

Louis Bailey The Boeing Company
 Bill Carson The MITRE Corporation

• Taumi Daniels* NASA

• Steve Darr* Dynamic Aerospace

• Stephanie Dubet DGAC/DNSA

• Mark Eden* Air Line Pilots Association, Intl

Alexander Engel
 EUROCAE (WG-76 Technical Programme Manager)

• Paul Freeman* L3Harris

• Izabela Gheorghisor The MITRE Corporation

• Karan Hofmann RTCA, Inc. (SC-206 Program Director)

• Amanda Hoprich AvMet Applications, Inc.

• Marius Irimia* Collins Aerospace

Edward Johnson* FAA
 Stuart McKay* UK CAA
 Michael McPartland* MIT/LL
 Carol Metais* Airbus

Jim Mills
 Nathan Polderman*
 HQ USAF/DoD
 United Airlines

Jean-Luc Thirion DSNA

Willie Truong Honeywell International, Inc.
 Matt Wiebold* Honeywell International, Inc.

- **3.** Review and Approval of Meeting Agenda
 - Reference slides 10 11 of the <u>2023 Dec SC206_WG76 Opening Plenary Leadership Slides final.pptx slides</u>
 - Amanda Hoprich displayed the meeting agenda for the week
 - The meeting agenda was approved
- **4.** Sub-Group Work Plan for the Week
 - SC-206 SG-6 / WG-76 MASPS:
 - o Reference the Sg6 WG76 Dec2023 Agenda v5.pptx slides
 - o Eldridge Frazier presented the SG-6 work plan for the week
 - There will be an SG-6 working group meeting this week along with the Opening and Closing Plenary sessions
 - O SG-6 will have a busy schedule this week as they are trying to wrap up the efforts with DO-364A
 - o Reference Slide 3
 - Appendix B contains the Operational Performance Assessment (OPA) information
 - This week they will be looking specifically at OPAs associated with the Eddy Dissipation Rate Turbulence Service (ETS) and Emergency Diversion Service (EDS) services
 - Due to time constraints, they will probably not work on the D-ATIS OPA until January
 - o Reference Slide 4
 - Eldridge noted that a key element is aircraft-aircraft connectivity, and SG-6 is glad to have Stephane Dubet at the meeting this week to lend his expertise and input
 - SG-6 wants to ensure that the document aligns with ICAO
 - o Reference Slide 6
 - The SG-6 meeting in Brussels in January will be a key meeting to meet the goal of approval for FRAC release by the April Geneva meeting
 - The idea is to have the document out for FRAC review in early May 2024
- **5.** Review and Approval of SC-206 Terms of Reference (TOR) / WG-76 Work Programme and Task Sheet Items
 - The revised TOR was displayed on screen and edits were made in real-time
 - Mark Libant commented that there have been a lot of prior discussions on this document, so everyone should be okay with the changes
 - Tim Rahmes noted that if there are any changes, they can be deliberated in the Closing Plenary
 Tim added that Matt Wiebold has agreed to lead the RTCA Report development effort
 - DO-358B Update
 - o Eldridge Frazier commented that the changes in green font are associated with the reengagement of SG-5
 - Louis Bailey asked if we can generate a Minimum Operational Performance Standard (MOPS) without a Minimum Aviation Systems Performance Standard (MASPS)
 - Eldridge responded in the affirmative
 - Louis also asked why we are only creating the MOPS for Universal Access Transceiver (UAT), since we are not covering "icing" outside of DO-360
 - Mark Libant replied that he thought "icing" was part of the Hazardous Weather (HzWx) Service Description ((SD)
 - Eldridge confirmed that "icing" is included in the HzWx SD
 - Alex Engel noted that the intent was always to revise an existing document, and that document was originally written for UAT

- Alex offered the following thoughts:
 - We could terminate the DO-358 update if all of the provisions are in DO-364 Or
 - We could amend the DO-358 document as intended
- Mark Libant asked if we can develop and include an SD outside of a TOR discussion / revision
 - The leadership responded in the affirmative
 - Alex added that we need to identify what is in the DO-364 document related to "icing"
- Eldridge noted that we do not have a MOPS-level icing service
 - That is beyond the scope of SC-206 and should be addressed within a Data Link Special Committee
- o Alex asked if we will be limiting DO-358C to UAT
 - Mark Libant and Eldridge responded in the affirmative
 - The original intent was to update the existing document
 - Alex reiterated that we need to ensure that the proper attention is being paid to "icing" within the HzWx Service in DO-364
 - Mark Libant concurred
 - Tim noted that going back to DO-267A, "icing" was mentioned
 - Tim asked what is missing in DO-358B now that would not allow us to address icing
 - Eldridge responded that we are changing the resolution and update rate of icing
 - Mark Phaneuf asked if the issue is just the icing resolution and update rate
 - Eldridge responded in the affirmative
 - Mark Phaneuf added that they could make the changes within the HzWx SD
 - SG-6 Action: Mark Phaneuf to reopen the Hazardous Weather Service Description and update the resolution and update rates related to "icing"
 - Bill Carson asked why we are changing the MASPS if we're increasing the minimums in the MOPS
 - Alex added that the MASPS and MOPS should be aligned
 - Eldridge noted that the TOR revisions "answer the mail"
 - Steve Darr asked if EUROCAE issued a Call for Interest for the DO-358B effort
 - Alex responded in the affirmative
 - The Working Group and Special Committee feel it would be beneficial to be a joint document
 - The participants concurred with and approved the TOR revisions
- o Alex then conducted a WG-76 Work Programme summary discussion
 - Stephane Dubet commented that he wants to ensure that the WG-76 TOR is aligned with the SC-206 TOR
 - Alex walked the participants through the various EUROCAE documents and the revisions to make the documents compatible with RTCA SC-206
 - Reference the ED-XXX Task Sheet
 - Alex commented that EUROCAE can always issue a request for participation to get additional European participation if more expertise is needed
 - Once the SC-206 changes have been approved by the PMC and uploaded to the SC-206 AerOpus, Alex will make updates to the respective WG-76 Task Programme and Task Sheet and present those documents to the TAC
 - Action: Alex Engel to crosscheck the changes in the SC-206 TOR against the WG-76 TOR documents for consistency
 - Alex asked for inputs from the EUROCAE representatives attending the Plenary
 - There were no additional inputs or objections noted

- Alex noted that the next TAC meeting will take place in mid-January 2024
 - These changes may go in front of the TAC at that time
- Stephane commented that he is concerned with including "EUROCAE will participate" in the SC-206 TOR language until the EUROCAE documents are approved
 - The language within the SC-206 TOR was revised in real time to satisfy Stephane's concerns
- With respect to the DO-358C/ED-XXX and Aircraft-Based Observations (AbO) Report efforts, Eldridge commented that if there is not active participation from Europe within the WG, meetings will remain within the United States
 - Alex concurred

6. Other Business

- Steve Darr notified the attendees that the ADS-B rule change that will allow ADS-B Version 3 messages to be broadcast will go into effect on December 18, 2023
- No new business items were raised

7. Adjourn

• The Opening Joint Plenary session adjourned at approximately 1025 MST (1625 CET, 1225 EST) on Monday, December 4, 2023

Closing Joint RTCA SC-206/EUROCAE WG-76 Plenary Meeting Summary - Friday, December 8, 2023.

The meetings this week were held at the Honeywell Aerospace facility in Phoenix, Arizona.

Presentations are posted at:

https://aeropus.i3cloudservices.com/Group/GroupLanding/99?tab=Documents&folder=2023+Meetings%2F4-December+4-8%2C+2023+-+74th+Meeting

The Closing Plenary convened at approximately 0830 MST (1630 CET, 1030 EST)

- 1. Remarks (RTCA/EUROCAE, Chairmen, Host)
 - Reference the 2023 Dec SC206 WG76 Closing Plenary Leadership Slides final.pptx slides
 - Mark Libant opened the meeting
 - Since the RTCA and EUROCAE guidelines were briefed during the Opening Plenary, those particular materials were not briefed during the Closing Plenary session
 - Mark Libant noted that the TOR revisions were approved on Monday
 - Eldridge Frazier was asked to create the PMC briefing slides related to the TOR revisions
 - o Eldridge noted that he has completed the briefing slides and provided them via email for the leadership to review
- 2. Introduction of Attendees (* denotes remote participation)

• Mark Libant, Co-Chair NAVCANADA

• Joe Bracken, Secretary AvMet Applications, Inc.

• Eldridge Frazier FAA, Government Authorized Representative

Louis Bailey The Boeing Company
 Miles Bellman FAA Spectrum Office
 Bill Carson The MITRE Corporation

Stephane Dubet DSNA

• Mark Eden* Air Line Pilots Association, Int'l

• Alexander Engel EUROCAE (WG-76 Technical Programme Manager)

• Alec Engell NextGen Federal Systems, LLC

• Paul Freeman* L3Harris

Charlie French*
 Thomas Gerz*
 Izabela Gheorghisor
 NextGen Federal Systems, LLC
 German Aerospace Center
 The MITRE Corporation

• Karan Hofmann RTCA, Inc. (SC-206 Program Director)

Amanda Hoprich AvMet Applications, Inc.
 Marius Irimia Collins Aerospace

Edward Johnson*
 FAA

Travis Lewis NextGen Federal Systems, LLC

• Matthew Lug* US Air Force

Macarena Martin-Viton Airbus (WG-76 Secretary)
 Brianna Maze NextGen Federal Systems, LLC

Stuart McKay* UK CAA
 Michael McPartland* MIT/LL

Jim Mills HQ USAF/DoD

• Austin Orchard* L3Harris

• Mark Phaneuf Air Line Pilots Association, Int'l

Jean-Luc Thirion DSNA Willie Truong Honeywell

- 3. Review and Approval of Meeting Agenda
 - Reference Slide 11 of the <u>2023 Dec SC206_WG76 Closing Plenary Leadership Slides_final.pptx</u> slides
 - Mark Libant made a motion to approve the Plenary meeting agenda for the day
 - o The motion was seconded
 - o The meeting agenda was approved
- **4.** Review and Acceptance of Minutes of WG-76 Meeting 69/SC-206 Meeting 73 (September Amsterdam/Boulder)
 - Joe Bracken reported that the subject document was originally uploaded to AerOpus on October 19th, with an update posted on October 23rd
 - All comments received were adjudicated
 - There were two (2) industry updates provided and topics discussed during the September Plenary
 - Water Vapor and Contrails Update
 - Advanced Air Mobility Update
 - Nine (9) action items were closed during the Plenary and eleven (11) new action items were assigned
 - Mark Libant made a motion to accept the September Plenary minutes
 - o The motion was seconded
 - o The September Plenary minutes were approved
- **5.** Report of Sub-Groups:
 - SC-206 SG-4/WG-76 SG-2: Turbulence MASPS (November Meeting)
 - o Reference the Closing Plenary SG4 SG2 20231208.pptx slides
 - o Mark Phaneuf provided the update
 - o Mark recognized the other co-chairs, Tim Rahmes and Tammy Flowe; neither of which were available to attend
 - While SG-4/SG-2 did not meet this week, Mark briefed the Plenary participants on the outcome of the SB-4/SG-2 November meeting
 - o Mark noted that they will be allowing for output into an EDR format for all techniques being evaluated
 - o Reference Slide 3
 - Mark noted that the biggest "ask" for clarification was that the effort include temporarily mounted Portable Electronic Devices (PEDs)
 - o Reference Slide 4
 - Mark noted that the items denoted in blue font are depicting new technologies being considered
 - Joe Bracken asked for the definition of a "stable" mounted PED
 - Mark responded that they will look at different mounts from different carriers
 - They did not create a definition yet, but there are definitions in the OpsSpecs that they will incorporate in their document
 - However, there is no formal definition yet
 - o Reference Slide 5
 - Mark noted that they had a productive three-day meeting this week

- Presentations for Meeting Accomplishments #2 and #3 will be made available on the AerOpus site
- The Situation-Target-Proposal (STP) spreadsheet is also available on the AerOpus site
- o Reference Slide 6
 - Mark indicated that the "analysis" may slip to the right due to the lengthy timeline of obtaining data
- SC-206 SG-6/WG-76: MASPS (DO-364A/ED-XXX)
 - o Reference the Sg6 WG76 Dec2023 Closing Slides.pptx slides
 - o Eldridge Frazier provided the briefing
 - o Eldridge noted that SG-6 achieved most of their goals for the week
 - o Reference Slide 3
 - Items in green font on the slide were accomplished for the week
 - They were not able to look at the D-ATIS OPA and were not able to complete all of the OSA/OPA action items
 - Thanks to Stephane Dubet and Macarena Martin-Viton, they had excellent input to the DO-364A review
 - Eldridge highlighted the "next steps" on the slide and noted that the meeting in Brussels in January 2024 is a working group meeting to get the document ready for Final Review and Comment (FRAC) by mid-April 2024
 - o Reference Slide 5
 - Appendices B and C are in process
 - The critical path is through the OSAs and OPAs
 - Bill Carson and Izabela Gheorghisor are getting them done, however there was not enough time to complete them this week
 - Appendix B and C will "roll up" into Section 3 of the document
 - They are attempting to get the document and all inputs to Amanda Hoprich by March 11, 2024
 - The intent is to get the document out to FRAC in May 2024 in order to obtain comments in time for the June 2024 meeting in Edmonton
 - Editorial comments can be addressed offline
 - However, the technical comments are more in depth and the Subject Matter Experts (SMEs) will work with the commenters to resolve the comments
 - Stephane Dubet commented that we do not necessarily need a face-to-face (F2F) Plenary Meeting to approve a document
 - Eldridge responded that he does not think there will be budget to hold additional F2F meetings or telecons
 - Stephane added that if the document is ready by the January 2024 meeting in Brussels, we may not need to wait until April to release it
 - Eldridge concurred
 - Alex Engel commented that we can approve a document for FRAC via a virtual meeting
 - Eldridge added that there may be some work that can be done after FRAC, but that will impact Amanda
 - Once the document is put together, there is an amount of time that Amanda will need to get the document into its final format
 - Stephane commented that by the first of April 2024, there will be comments to the document from the SC-206/WG-76 early review that can be addressed at the Geneva meeting
 - For those comments that cannot be addressed, those can be left for resubmittal during the FRAC review of the document

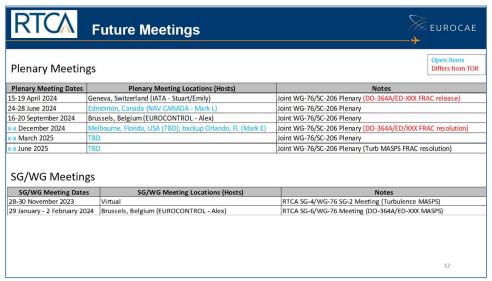
- Alex noted that internal review is not part of the actual process, it is just something that some groups do
 - Internal review is not required before a document can go for FRAC and Final Consultation

6. Industry Coordination

- Advanced Air Mobility (AAM) Update
 - o Reference the <u>SC206_WG76 Joint Plenary (December 2023) Advanced Air Mobility (AAM) Update</u> slides
 - Joe Bracken provided the status update
 - o Reference Slide 3
 - Eldridge asked what "legislative efforts" NAV CANADA is focused on
 - Joe responded that he would look into it within the NAV CANADA briefing materials for additional details and report back to Eldridge
- Trajectory Based Operations
 - Louis Bailey reported that he has not gotten permission from Boeing to publicly release the information
 - o Louis asked that this status update be deferred until the April 2024 Plenary
- Machine Learning
 - o Reference the StratusML Capabilities.pptx slides
 - o Charlie French and Brianna Maze gave the briefing
 - o Reference Slide 2
 - Machine Learning (ML) is a subset of Artificial Intelligence (AI)
 - ML learns the equation from training the data
 - o Reference Slides 3-6
 - Charlie noted that the process is time consuming and challenging
 - o Reference Slide 11
 - StratusML provides the tools and technology to allow for:
 - Time-Series Forecasting
 - Aviation Hazards Forecasting
 - Synthetic Radar
 - Object Detection and Tracking
 - o Brianna Maze then provided a demonstration of StratusML
 - o Mark Phaneuf asked what turbulence data was used as it relates to "aviation data"
 - Brianna responded that they used the IATA turbulence data over a 13-month period globally
 - They looked at light, medium, and high turbulence (EDR) events
 - o Eldridge commented that he is interested in the synthetic radar information and what data is being used
 - Brianna responded that their repository expanded as they went along
 - That is a very big project in and of itself
 - They mainly used Mode-S and GAWA(?)
 - Brianna added that they will be presenting this material at AMS also

7. Future Meetings, Plans, and Dates

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



June 2024

- o Mark Libant noted that the rooms are booked in Edmonton for the June 2024 meeting
 - Mark added that since there are no local restaurants, he will be providing lunch
 - Action: Mark Libant to send hotel recommendations and facility description for the meeting in Edmonton, Canada in June 2024
- September 2024
 - Louis Bailey noted that for the September 2024 meeting, he and Eldridge are looking at hosting the meeting at the Boeing facility in Dublin, Ireland
 - Louis added that there will be more details to follow
 - Jim Mills commented that a Dublin venue might raise questions within the government regarding the location
 - Alex Engel commented that he will keep the room booked at EUROCONTROL in Brussels for now
 - If the group decides on another location, he can cancel the rooms
- December 2024
 - Eldridge commented that he may suggest the L3Harris facility in Melbourne, Florida
 - Action: Paul Freeman to look into L3Harris hosting the December 2024 Joint Plenary
 - Paul to focus on the first week of December 2024 if possible
- March 2025
 - Mark Libant asked if this meeting will be held somewhere in Europe
 - Mark suggested that he could host the meeting in Malaga, Spain
 - Action: Mark Libant to check into hosting the March 2025 Plenary Meeting in Malaga, Spain
 - Airbus in Toulouse could be a backup location
- June 2025
 - Eldridge asked the group to consider the Aircraft Owners and Pilots Association (AOPA) facility in Frederick, Maryland

8. Action Items Review

- Action Item 419
 - o This item was Closed
- Action Item 423
 - o This item remains Open
 - SG-4/SG-2 are still in discussion with SC-230
- Action Item 424
 - o This item remains Open
- Action Item 425
 - o This item was Closed
- Action Item 426
 - o This item was Closed
- Action Item 427
 - o This item was Closed
- Action Item 428
 - o This item was Closed
- Action Item 429
 - o This item was Closed
- Action Item 430
 - o This item was Closed
- Action Item 431
 - o This item was Closed
- Action Item 432
 - o This item was Closed
- Action Item 433
 - o This item was Closed
- Five new Plenary action items were identified during the Opening and Closing Plenary sessions and are shaded in green below

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

#	Owner	Action	Date	Due Date	Status
Open Action Items					
423	SG-4/SG-2 Leadership	Collaborate with SC-230 leadership on the value of onboard weather radar for datalink observations	September 2023	December 2023	Open
424	SG-4/SG-2 Leadership	scope text for the EUROCAETAC	September 2023	January 2024	Open
434	Karan Hofmann Alex Engel	Revise Recording policy slide to make this a joint RTCA/EUROCAE slide	December 2023	April 2024	Open
435	Alex Engel	Crosscheck the changes in the SC-206 TOR against the WG-76 TOR documents for consistency	December 2023	January 2024	Open
436	Paul Freeman	Look into L3Harris hosting the December 2024 Joint Plenary	December 2023	April 2024	Open
437	Mark Libant	Send hotel recommendations and facility description for the meeting in Edmonton, Canada in June 2024	December 2023	April 2024	Open
438	Mark Libant	Check into hosting the March 2025 Plenary Meeting in Malaga, Spain	December 2023	April 2024	Open

9. Other Business

- Eldridge commented that during the Monday Opening Plenary, Version 22 of the TOR was approved to go to the PMC
 - o Added to this version of the TOR were:
 - Slipping the deliverable date for DO-364A/ED-XXX
 - Adding an RTCA Report for Airborne Weather Observations
 - Reactivating SG-5 for revision of DO-358B
 - Eldridge will be briefing the PMC on Thursday, December 14th and seeking approval of these changes
 - Eldridge will propose, as part of his briefing, two co-chairs for the reactivated SG-5
 - Paul Freeman (Paul has received support from his company)
 - Jim Mills (Jim is working with his management for support)
 - Matt Wiebold has agreed to co-chair the RTCA Report development effort

10. Adjourn

 The Closing Plenary adjourned at approximately 1100 MST (1900 CET, 1300 EST) on Friday, December 8, 2023

CERTIFIED as a true and accurate summary of the meeting.

Timothy Calin

Tim Rahmes, SC-206 Co-chair

Mark Libant, SC-206 Co-chair

Joe Bracken, SC-206 Secretary

Macarena Martin-Viton, WG-76 Secretary