



RTCA, Inc.
1150 18th Street, NW, Suite 910
Washington, DC 20036
Phone: (202) 833-9339
Fax: (202) 833-9434
www.rtca.org

RTCA Paper No. 154-23/SC230-075
06/27/2023

RTCA SC-230 Plenary #33 Meeting Minutes (Apr 12-13, 2023)

Attendance list:

Apr 12th	
Name	Company
<i>Karan Hofmann</i>	<i>RTCA</i>
<i>Moin Abulhosn</i>	<i>FAA</i>
<i>Jean-Baptiste Berthier</i>	<i>Airbus</i>
<i>Mohammed Ahmed</i>	<i>Boeing</i>
<i>Jeff Finley</i>	<i>Collins</i>
<i>Mark Smith</i>	<i>Collins</i>
<i>Marius Irimia</i>	<i>Collins</i>
<i>William Blake</i>	<i>Garmin</i>
<i>Mariusz Starzec</i>	<i>Garmin</i>
<i>Florian Kunstmann</i>	<i>Hensoldt</i>
<i>Dawn Gidner</i>	<i>Honeywell</i>
<i>Jan Lukáš</i>	<i>Honeywell</i>
<i>Yahya Golestani</i>	<i>Honeywell</i>
<i>Rockee Zhang</i>	<i>OU</i>
<i>Bob Avijian</i>	<i>Mitre</i>

Apr 13th	
Name	Company
<i>Karan Hofmann</i>	<i>RTCA</i>
<i>Moin Abulhosn</i>	<i>FAA</i>
<i>Jean-Baptiste Berthier</i>	<i>Airbus</i>
<i>Mohammed Ahmed</i>	<i>Boeing</i>
<i>Jeff Finley</i>	<i>Collins</i>
<i>Mark Smith</i>	<i>Collins</i>
<i>Marius Irimia</i>	<i>Collins</i>
<i>William Blake</i>	<i>Garmin</i>
<i>Mariusz Starzec</i>	<i>Garmin</i>
<i>Florian Kunstmann</i>	<i>Hensoldt</i>
<i>Dawn Gidner</i>	<i>Honeywell</i>
<i>Jan Lukáš</i>	<i>Honeywell</i>
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4/12/23 – 4/13/23 SC230 WG-10 Plenary #33 - Virtual

Action items – Day 1

[Moin] Graciously took an action to update AC 20-182 and make it consistent with what was done for windshear including TSO.

[Dawn] Update to establish consistency - use combination of statistical, simulation and subsequent requirements only made reference to simulation which was an oversight.

[Dawn/Karen] Karen stated all 'shall' requirements need to be numbered and agreed to work together with Dawn. Action for Dawn and Karen to work together on it for possible inclusion in next release.

[Rockee] Provide the journal article after authors provided feedback and comments have been addressed. Also provide the journal article and conference paper references.

[Group] Need to write a technical digest or summary of Rockee's work that includes a table or equation set detailing on how to incorporate the scintillation effect into the models.

Action items – Day 2

[Jeff] Coordinate internally with his spectrum management team to come back with timeline on 6G deployment.

[Jeff] To establish a flight plan back to Bruce with pilots in the loop so we can use that for committee to evaluate on how to define classes of windshear detection of airborne weather radar. Steven H. was very instrumental and maybe good fit for this exercise. Jeff has an action to provide names who can help.

[Group] To meet back with our own spectrum management team to understand 1) timeframe for the need of whitepaper when 6G is going to come about, 2) then we can talk about specific action items from funding to research topic provided by Rockee to do imperical measurement around airport then decide who is going to start working on the analysis and the scope of the analysis.

[Karen/Jeff] As part of the working group session update TOR. Action for Karen and Jeff for going into action monitor status to be presented at PMC June 22nd.



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High-level summary of effort and major discussion points:

DAY 1

- BRIEF ROUND OF INTRODUCTIONS.
- JEFF EXPLAINED THE AGENDA
- VARIOUS OPTION FOR EXTENDING THE TOR, OTHER OPTIONS TO EXTEND THE TOR AT SOMETIME IN THE FUTURE
- MEETING MINUTES UPLOADED AS CAPTURED IN JAN/FEB OF THIS YEAR.
- ACTION FROM PREVIOUS PLENARY WERE DISCUSSED
 - COORDINATE WITH KAREN ON STORM MODEL DATA FOR RTCA
 - SAE ICING PAPER - GOOD TO GO - JAN WILL CONTINUE TO LET US KNOW IF THERE ARE ACTIONS TRANSPIRE FROM THE REVIEW, ETC.
 - MOIN (FAA) CAN SUPPORT SMALL ANTENNA WINDSHEAR --- MOIN INSTRUCTED IF THERE COULD BE PHILOSOPHICAL RATIONALE, INTEREST NEED TO COME FROM INDUSTRY, COMMITMENT AND INTEREST NEED TO SHOW FROM THE INDUSTRY - NEED TO SHOW SUPPORT. MOIN SUGGESTED THAT WE SHOULD PROCEED REGARDLESS AND LET'S SEE HOW THINGS GO FROM THERE.
- JEFF HELPED WALK THROUGH ROLES AND RESPONSIBILITY
- SCHEDULE WAS DISCUSSED (MARCH 2023) - IT WAS EMPHASIZED THAT WE ARE ON SCHEDULE PLUS GRAPHICAL DEPICTION
- ACCOMPLISHMENTS WERE DISCUSSED DO-220B PLUS CHANGE 1 TO DO-213
- WENT THROUGH INTRODUCTIONS
- WENT THROUGH DETAILED TECHNICAL AGENDA

- DISCUSSED 5 COMMENTS IN CORRELATION TO CHANGES MADE IN THE DOCUMENT
 - WHY WAS THE UTC ACRONYM USED AS COORDINATED UNIVERSAL TIME - MOIN STATED IT WAS BROUGHT UP BY BILL CARSON. ALL AGREED THAT THERE ARE NO ISSUES TO ACCEPT THE PROPOSED CHANGE AS IT WAS NO DOWNSIDE TO KEEP IT AS IS. IT WAS BROUGHT TO OUR ATTENTION BY KAREN THAT SPREADSHEET NEEDS TO BE REFLECTED TO INCORPORATE THE COMMENT WITH ACCEPTANCE. KAREN FURTHER EXPLAINED ON THE PROCESS IF THE COMMENT WAS REJECTED, IT NEEDS TO COORDINATE WITH THE INDIVIDUAL WHO BROUGHT UP THE COMMENT. ALSO WE DIDN'T GET ANY 'NON-CONCUR' COMMENT. FROM RTCA PROCESS, IT WAS AGREED THAT WE ARE GOOD TO GO.

 - 'MUST INDICATE' - WE WENT THROUGH STATISTICAL EVALUATION OF PERFORMANCE - FLIGHT TEST DATA, THE INTENT FOR THE TRUTH VALUE WAS 3 M/CUBIC METER FOR SPECIFIC REQUIREMENT. VALUE WAS ASSOCIATED TO THE TRUTH AND WHOLE VALUE FOR STATISTICAL CHARACTERISTICS..... JAN WAS ABSOLUTELY CORRECT ON THE FACT THAT



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WHERE WE ARE GOING TO FIND 3.00 TRUTH DATA WHICH WAS INCONSISTENT. JEFF ADDED AN ADDENDUM THAT WAS DISCUSSED..... PLAN IS, THAT WE ARE GOING TO USE SIMULATED FIELDS FOR THE EVALUATION OF SIMULATED ICE CRYSTAL FIELD AND FLIGHT DATA. JEFF ASKED JAN FOR CONCERNTRATION LEVELS AND THAT WAS SUFFICIENT, JAN SAID HE NEVER LOOKED AT IT FROM THAT PERSPECTIVE. HOWEVER, HE STATED THIS WAS AN ACCUATE NUMBER. JEFF STATED IF WE CAN BOUND WITH PERCENTAGE, JAN STATED THAT IT WAS GOOD IDEA. 20% OF ONE GRAM COULD BE POSSIBLY USED. WILLIAM EXPRESSED HIS CONCERNS ON RANGE WITH RESPECT TO THE STATISTICAL DATA, INTENT WAS QUANTITATIVE EVALUATION OF ICE CRYSTAL MEASUREMENT, POWER SNR FOR THESE TARGETS. NO TO FLIGHT DATA, HOWEVER IT MAY RAISE CONFIDENCE AND THE INTENTION WAS TO ENSURE WE MEET THE INTENT IF WE ARE REALLY MEETING IT. FIRST PARAGRAPH WAS COPIED OVER FROM TURBULENCE, IT ACTUALLY EXIST BUT INDUSTRY AGREED THAT NO ONE USES THAT DATA. IT WAS OVERLOOKED AND IN THIS CASE THE PURPOSE WAS TO EVALUATE RADAR BIAS THAT UNDER IDEAL CONDITIONS IT WAS CAPABLE TO MEET. JEFF STATED REGARDING FLIGHT TEST DATA THAT HE DOESN'T OBJECT BUT IT WILL BE HIGH BURDEN REQUIREMENT. HOWEVER HE AGREE WITH WILLIAM THAT WE ARE LOOKING AT THE VARIATION IN THE PULSE VOLUME, ETC. FLYING THROUGH AREA OF ICE CRYSTAL AND BACKING UP WHAT RADAR DETECTS AND COORELATE WITH EXACT INDICATION THAT POINT IS A BURDEN, TOUGH THING TO MEET. IT SEEMS TO BE MORE SENSABLE TO MEET SIMULATION. JEFF CONSULTED WITH JAN WHILE WILLIAM BROUGHT UP CONCERNS WITH STATISTICAL ANALYSIS. JAN THINKING WAS PRETTY WELL IN LINE WITH CONCERNTRATION, BUT FINDING REALLY 3 GMS IS AN ISSUE UNLESS WE BOUND IT WITH PERCENTAGE. HE FURTHER SAID PUT PERCENTAGE VALUE AT ONE PLACE AND USE ABSOLUTE VALUE ON THE OTHER WILL BE DIFFICULT TO MEET. WILLIAM STATED IF HE CAN DO STATISTICAL ANALYSIS TO SHOW SOME LEVEL CONFIDENCE THAT CONCERNTRATION LEVEL HAS NOT CHANGED. JAN STATED TESTING WITH OTHER DATA, COMPARING WITH INSTITU DATA FOR WHICH NASA DID THE WORK, THERE WAS CONCLUSION FROM RESEARCH THAT YOU CAN COMPARE THE DATA IF IT IS MAXIMUM 5-10 MINUTES APART. THERE WAS A QUESTION ON WHAT VARIABLES TO BE USED, AIR SPEED FOR EXAMPLE. A340 WAS USED FOR TESTING, RANGE WAS 40 NM WHICH CAN BE CORRELATED. BUT WE CAN'T REALLY USE STATISTICAL ANALYSIS FOR BEYOND 40NM BECAUSE OF THE FACT THAT DATA MAY CHANGE COMPARED TO INSTITU DATA AND ACTUAL MEASUREMENT AS INSTITU HAS WIDE BEAM. PERCENTAGE ERROR OF THE PROBES SHOULD BE INCLUDED BEYOND 40 NM, IT WAS ASKED BY WILLIAM IF THAT WOULD BE APPROPRIATE TO PUT IT.



If the statistical evaluation uses a simulated ice crystal field, the field should consist of a uniform concentration of ice crystals with concentration value 3 g/m³ (Subparagraph 2.2.6.5), 1 g/m³ (Subparagraphs 2.2.6.6, 2.2.6.7), and 0.2 g/m³ (Subparagraph 2.2.6.8).

If the statistical evaluation uses flight test data, then particle probes or other independent direct measurement devices should be used to verify the environmental ice crystal concentration. Areas of ice crystals with verified mean concentration of 3 +/- 0.1 g/m³ (Subparagraph 2.2.6.5), 1 +/- 0.1 g/m³ (Subparagraphs 2.2.6.6, 2.2.6.7), and 0.2 +/- 0.1 g/m³ (Subparagraph 2.2.6.8) should be used.

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JEFF ASKED WILLIAM ON HOW TO PROPOSE AND FIX THE SECOND PARAGRAPH. WILLIAM STATED HOW DO WE APPROACH ON HOW TO QUANTITY ENVIRONMENTAL IMPACTS. IT WAS REFERRED IF 50% COULD BE USED, BUT JAN STATED IT WILL BE DIFFICULT TO DO THAT HOWEVER THERE WAS SOME INCLINATION TOWARDS +/- THRESHOLD WILL BE EASIER TO ACCOMPLISH.

PROPOSED WORDING INDICATED THAT EVALUATION SHOULD ACCOUNT FOR INACCURACIES IN INSTITU MEASUREMENTS DUE TO PROBE VARIANCE AND BIAS, AS WELL AS ENVIRONMENTAL CHANGES THE TIME OF THE PROBE MEASUREMENTS AND THE RADAR MEASUREMENT.

PARAGRAPH 2.4.4.4 WAS USED AS A REFERENCE FOR THE WORK WHICH WILL BE WORKED BY SUPPLIER. WILLIAM STATED THAT RADAR MANUFACTURER WILL EVALUATE IT FROM THEIR STANDARDS.

- IN RESPECT TO PARAGRAPH, TO REALLY UNDERSTAND STATISTICAL DATA WITH RESPECT TO BIAS ETC., IT WILL RATHER BE ACOMOMPLISHED BY ACCEPTABLE MONTE CARLOS SIMULATION. AND REMOVE STATISTICAL ANALYSIS OF FLIGHT TEST DATA FROM PARAGRAPH D1.
- MOIN RECOMMENDED 4TH PARAGRAPH SHOULD MAKE USE OF 'SHOULD' OTHERWISE HOW DO WE MAKE SURE RADAR MANUFACTURER DID THE STATISTICAL EVALUATION.
- MOHAMMED EXPRESSED CONCERNS REGARDING ARE WE DOING ENOUGH TO VERIFY AND VALIDATE THE FEATURE AND THE NEED TO DO FLIGHT TEST. BOB MADE REFERENCE TO THE AC 20-182 AND SUGGESTED IT SHOULD BE CONSISTENT WITH WHAT WE DID FOR WINDSHEAR. AC CALLS OUT DO-220A, DAWN MENTIONED THAT LEE WAS IN PROCESS OF UPDATING THE AC BUT THAT DIDN'T WENT ANYWHERE. GOAL WILL BE TO UPDATE AC AFTER DO-220B IS COMPLETED. ALSO INCORPORATE SIMULATION OF A VERY COMPLEX SET OF ICING FIELDS ARE GO NO GO SIMULATIONS, STATISTICAL ANALYSIS OF ICE SIMULATION AND ALSO HAVE A



PARAGRAPH THAT YOU SHOULD ONLY DO FLIGHT TEST WHEN AC CLEARLY INDICATE THAT FLIGHT TEST SHOULD BE NECESSARY ...

<ACTION> IS WE HAVE RESOLVED THE ACTION. MOIN GRACIOUSLY TAKEN ACTION TO UPDATE AC AND TSO.

- STATISTICAL REQUIREMENT IS NOT THE REQUIREMENT BUT VERIFICATION. WE AGREED TO PUT IN THE SECTION 2.2.6.4 JUST SO IT IS CLEAR - THERE WERE NO OBJECTIONS, ACTION COMPLETE.
- SECTION 2.2.6, TABLE 2-5, ASSUMPTION WAS GREATEST OPERATIONAL RANGE IS THE MOST STRINGENT. OPERATIONAL RANGE IS WHERE WE MEET STATISTICAL REQUIREMENT. JEFF ASKED CLARIFICATION QUESTION FROM MARIUSZ S. IF WE ARE CLAIMING OPERATIONAL RANGE AND TESTING OPERATIONAL RANGE. WHAT IS STATED IN THE COMMENT IS THAT THE REQUIREMENTS ARE VALID WITHIN DECLARED OPERATIONAL RANGE. IT WAS AGREED TO MODIFY THE NOTE UNDER TABLE 2-5, SEE SNIPPETS.

Note: If the operational range claimed is greater than the minimum operational range defined herein [Table 2-5](#), the operational range must be tested in Subparagraphs [2.2.6.5](#) through [2.2.6.8](#) ~~must be tested up to and including the claimed operational range.~~

2.4.3.6.4 High-Altitude Ice Crystal Detection – Equipment Level (Minimum Operational Range) (Subparagraph 2.2.6.4)

Verify that the equipment level is defined per Subparagraph [2.2.6.4](#), and that the statistical analyses dictated per Subparagraphs [2.2.6.5](#) through [2.2.6.8](#) satisfy the requirements up to and including the claimed operational range at the specified minimum operational range.

Note: Select a reasonable number of ranges for testing. Testing should ensure that the requirements are met as system parameters, such as waveforms or beam patterns, etc. change with range.

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- USE COMBINATION OF STATISTICAL, SIMULATION AND SUBSEQUENT REQUIREMENTS ONLY MADE REFERENCE TO SIMULATION WHICH WAS AN OVERSIGHT. DAWN TOOK AN <ACTION> TO ESTABLISH CONSISTENCY. MOIN QUESTIONED ON THE REMOVAL OF REFERENCE NUISANCE. WILLIAM EXPLAINED THAT IT WAS JUST CLERICAL.
- VOTE WAS CASTED BY THE INDUSTRY AND APPROVAL WAS OBTAINED THAT THE CHANGES MADE IN THE DOCUMENT TO ALL COMMENTS SATISFACTORILY AND THAT WE ACCEPT THIS DOCUMENT FOR SUBMISSION TO NEXT PMC. MOIN ASKED KAREN IF ALL REQUIREMENTS NEED TO DO NUMBERED. KAREN STATED ALL 'SHALL' REQUIREMENTS NEEDS TO BE NUMBERED AND AGREED TO WORK TOGETHER WITH DAWN. <ACTION> FOR DAWN AND KAREN TO WORK TOGETHER ON IT.



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DAY 2

- WHAT WE ARE GOING TO DO AS COMMITTEE.
- MAY BE MEET ON MONTHLY BASIS TILL TOR IS OFFICIALLY EXTENDED.
- THINGS TO CONSIDER
 - AUTO MODE MEANS ALL RADAR HAVE TO BE IN AUTO MODE BUT WE DON'T HAVE REAL GOOD REQUIREMENT WHAT WE DO WITH IT.

 - OVERALL NOISE FLOOR CHANGE, IT WILL HAVE IMPACT WOULD IT BE ADVISABLE TO PROVIDE SOME GUIDANCE TO AN ATTEMPT TO LET PEOPLE KNOW THAT YOU CAN JUST BROADCASTING NEXT TO US IT WILL HAVE IMPACTS, NEXT WILL BE PART OF IMPACT TO WINDSHEAR DETECTION AS A RESULT OF IT. DO WE HANDLE ONE ITEM OR ALL ITEM WILL BE ALL SUBJECTIVE. QUESTION WAS POSED TO KAREN, WHO FURTHER ITERATED THAT COMMITTEE IS NOT SUNSET HOWEVER CAN GET TOGETHER EITHER MONTHLY OR QUARTERLY TO DISCUSS LOGICAL ITEMS BROUGHT FORWARD BY JEFF. AS LONG AS WE HAVE SOME EVIDENCE OF BUCKETIZED LIST THEN IT GIVES CONTENT TO RTCA TO KEEP THIS COMMITTEE ALIVE. MOIN SAID, WE ARE OFFICIAL TO GO FOR ANOTHER THREE MONTHS. KAREN STATED IT IS RECOGNIZED WE ARE ACTIVE COMMITTEE, BUT NOT MAKING ANY DELIVERABLES.

 - JEFF STATED IF WE CAN WE SHOULD PUT TOGETHER SOME IDEAS SO WE HAVE SOMETHING TO HING OUR ANCHOR ON.
 - AUTO MODE.... WE HAVE MINIMUM PERFORMANCE REQUIREMENTS, WEATHER THREAT ITEMS, IC, AND TURBULENCE REQUIREMENTS. AUTO MODE IS SOMEWHAT ANALOGOUS AND WAS PUT INTO WEATHER RADAR REQUIREMENTS. THERE WAS AN EXAMPLE GIVEN BY JEFF REGARDING TURBULENCE REQUIREMENTS WHICH WERE JOINTLY PUT TOGETHER BY WEATHER RADAR REQUIREMENTS UNTIL FAA STARTED MAKING EMPHASIS ON TURBULENCE DETECTION. NASA WAS HEAVILY PARTICIPATED IN IT, JEFF RECALLED HAVING CONVERSATION ON KURT BAKER AT FAA LONG BEACH OFFICE REGARDING TURB. KURT SEEMED CONVINCED AT AUTO MODE DOESN'T NEED TOO MUCH EMPHASIS. JEAN BAPTISTE SUGGESTED WE MAY NEED TO CONSIDER LOOKING AT IT IN TERMS OF GROUND CLUTTER SUPPRESSION. WHAT DOES YELLOW/RED/GREEN MEAN IN TERMS OF DEFINING WHAT THEY REALLY MEAN? JEAN BAPTISTE SAID, AUTO MODE HAS A BIG IMPACT AND PERFORMANCE NEEDS TO WELL UNDERSTAND. ONE ITEM IS GROUND CLUTTER TRANSLATE TO THE



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OVERALL PICTURE. PILOTS ARE RELYING MORE ON WHAT THEY SEE, BEFORE IT WAS MANUAL SO GAVE SOME FOOTING TO PERFORM COMPARISON WITH GROUND CLUTTER. HE FURTHER EMPHASIZED WE SHOULD CONSIDER LOOKING INTO IT. QUESTION WAS ASKED IF THERE WAS ANY REBUTTAL TO IT. DAWN STATED THERE IS NO OBJECTION HAVING DISCUSSION, BUT IT WILL FORCE ALL RADAR MANUFACTURER TO ALIGN WITH SAME DESIGN WHICH MAY INTRODUCE COMPLEXITIES. BUT SHE WAS OPEN TO HAVE A DISCUSSION AND UNDERSTAND PROBLEM RAISED BY OEM. SAME SENTIMENTS WERE BROUGHT FORWARD BY WILLIAM. AFTER LISTENING TO THIS AND WITH THE HOPE TO KEEP COMMITTEE ALIVE, THERE WAS SOME DISCUSSION FROM KAREN IF THIS WOULD CLASSIFY AS ACTIVE MONITOR OR LEANING MORE TOWARDS WHITEPAPER EFFORT. IT WAS ALSO DISCUSSED HOW MUCH PARTICIPATION WOULD ATTRACT IF THAT WAS THE CASE. IN OUR TOR WE CAN ENUMERATE THINGS WE ARE GOING TO FOCUS ON OR JUST KEEP IT OPEN PER KAREN AND JEFF. THERE WAS THOUGHT TO KEEP TOR LIVING DOCUMENT AND ADD ALONG NEW ITEMS AS WE GO.

- NEXT INTERESTING TOPIC IS PROVIDING GUIDANCE ON SPECTRUM MANAGEMENT. OUR COMMITTEE PROVIDED RESPONSE TO SC-242, BUT IT ISN'T SOMETHING THEY ARE LOOKING FOR BUT THEY ARE RATHER LOOKING FOR FREQUENCIES FOR RECEIVER AND TRANSMITTERS. RAW SENSITIVITY AND SNR IS RATHER DIFFICULT TO CAPTURE, BUT IF WE CAN ALIGN ON WHAT CAN BE JOTTED DOWN TO PROVIDE INFORMATION IN THE WHITEPAPER SIMILAR TO WHAT RADIO ALTIMETER DID IN TERMS OF SPECTRUM INTERFERENCE IN RELATION TO WEATHER RADAR. WE MAY HAVE CELL PHONE TOWER ALIGNED TO THE RUNWAY CONTRIBUTING INTERFERENCE IT WILL DO NO GOOD WITH OUT FLOW SIGNATURES. DOES IT MAKE SENSE TO WORK ON THAT? THERE WERE POSITIVE FEEDBACK RECEIVED TO WORK ON THIS ITEM. THIS EFFORT ISN'T SOMETHING WHICH CAN BE DONE DURING LUNCH TIME, BUT RATHER REQUIRES DEDICTED TIME AND EFFORT AS THERE NEEDS TO BE MEASUREMENTS MADE CLOSE PROXIMITY OF THE AIRPORT FOR EXAMPLE. ROCKEE MENTIONED AT UFOF THEY ARE MAKING SOME MEASUREMENTS WITH FAA AND FLY THROUGH IN THIS ENVIRONMENT EVEN IN OUR OWN SPECTRUM FOR WEATHER RADAR. MAKING NOISE FLOOR MEASUREMENTS WOULD BE RATHER EASIER ON WHAT THE CURRENT ENVIRONMENTS LOOKS LIKE AND COMPARE IT WITH REGULATIONS REGARDING HOW SPECTRUM IS DEFINED WITH RESPECT OUT OF BAND LEAKAGE. LETS SAY FOR INSTANCE WE HAVE CELL PHONE TOWARD SITTING NEAR THE AIRPORT IN LINE WITH FREQUENCY OF INTEREST WILL HAVE DIRECT IMPACT. IT WILL BE A GOOD RESEARCH TOPIC BY SENDING GRADUATE STUDENTS TO SEE AND COLLECT DATA.



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- JEFF TOOK <ACTION> TO COORDINATE INTERNALLY WITH HIS SPECTRUM MANAGEMENT TEAM TO COME BACK WITH TIMELINE ON 6G DEPLOYMENT. ALSO, EACH COMPANIES SHOULD TAKE ON EFFORT AND TALK TO THEIR EXPERTS TO KNOW THE PLAN SO THAT THERE IS WAY WHEN WE GET TOGETHER WITH THE TEAM IT WILL HELP LAY OUT GOOD PERSPECTIVE. JEAN B. SPECIFIED THAT HE HASN'T BEEN ON ANY DISCUSSION ON WEATHER RADAR CREATING INTERFERENCE. UNITED STILL FLIES C BAND RADAR WHICH MAY ALSO HAVE DIRECT IMPLICATION ON THIS EFFORT. THERE WAS SOME DISCUSSION ON INDUSTRY PARTICIPATION AND STEPS TAKEN BY COMPANY TO WORK DOCUMENT LIKE DO-220. TURB EXAMPLE WAS USED TO GET INTERNAL SUPPORT IF OTHER AGENCY OUT THERE ARE ALREADY WORKING ON RESEARCH AND SATISFY GOVERNMENT INITIATIVE TO MAKE A CONVINCING ARGUMENT INTERNALLY WITHIN OUR COMPANIES. IF FUNDING WAS AVAILABLE IT WILL HELP, BOB AVJIAN STATED HE WILL LET US KNOW IF THERE WAS ANY GOVERNMENT PROJECTS HAPPENING AND WILL LET US KNOW.

- THIRD TOPIC WAS DEFINING CLASSES OF WINDSHEAR DETECTION OF AIRBORNE WEATHER RADAR. THERE ARE MIXING COMMENTS ALLUDING TOWARDS REQUIREMENTS WHICH WE HAVE IS AS IS OR DO WE NEED TO SPEND TIME TO WORK IT. THERE WAS SOME DISCUSSION ON HOW TO OBTAIN PERFORMANCE DATA SO IT COULD BE USED TO CREATE SIMULATIONS TO SEE HOW PILOT INTERACTS AND WE ALREADY HAVE THAT AS PART OF FLIGHT SIMULATORS. ONCE AGAIN THIS ISN'T ANYTHING WHICH CAN BE DONE ON LUNCH BREAK BUT IT REQUIRES DEDICTED TIME TO GO OUT TO THE SIMULATORS AND TEST IT. JEFF FURTHER STATED IF IT MAKES SENSE TO ESTABLISH A FLIGHT PLAN BACK TO BRUCE WITH PILOTS IN THE LOOP SO WE CAN USE THAT FOR COMMITTEE TO EVALUATE <ACTION>. STEVEN H. WAS VERY INSTRUMENTAL AND MAYBE GOOD FIT. JEFF HAS AN <ACTION> TO PROVIDE NAMES WHO CAN HELP.

- VOTE ON TAKEN AND IT WAS AGREED BY THE INDUSTRY THAT SPECTRUM MANAGEMENT STUDY IS THE MOST IMPORTANT OF ALL AS IT IS BEING DRIVEN BY THE REGULATORY ENVIRONMENT.

- ONCE A MONTH IS REASONABLE TO KEEP GOING FORWARD.

- MAY 16TH (NEXT MEETING), ONE HOUR MEETING. ACTION IS TO MEET BACK WITH OUR OWN SPECTRUM MANAGEMENT TEAM TO UNDERSTAND 1) TIMEFRAME FOR THE NEED OF WHITEPAPER WHEN 6G IS GOING TO COME ABOUT, THEN WE CAN TALK ABOUT SPECIFIC ACTION ITEMS FROM FUNDING TO RESEARCH TOPIC PROVIDED BY ROCKEE TO DO IMPERICAL MEASUREMENT AROUND AIRPORT THEN



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DECIDE WHO IS GOING TO START WORKING ON THE ANALYSIS AND THE SCOPE OF THE ANALYSIS.

- AS PART OF THE WORKING GROUP SESSION UPDATE TOR <ACTION> KAREN AND JEFF FOR GOING INTO ACTION MONITOR STATUS TO BE PRESENTED AT PMC JUNE 22ND.

Next plenary

The next meeting will be a virtual working group session on 16 May, 11:00 am – 12:00 pm ET

CERTIFIED as a true and accurate summary of the meeting.

Mohammed Ahmed, SC-230 Secretary

Jeff Finley, SC-230 Chair