PARC Member F2F Agenda

November 16-17, 2005
AMTI (Overland Room)
1515 Wilson Blvd. Ste. 1100, Arlington, VA 22209
703-841-2684

16 Nov

Note: All of the presentations for each agenda item covered below can be found on the PARC Face-to-Face Meeting KSN site.

Meeting Overview & Agenda Review

Dave Nakamura reviewed the agenda for the two day meeting. He emphasized the importance of the RNAV implementation activities and stated that the international harmonization activities are critical.

How PARC is Doing, What is needed, and FAA Plans – Sabatini and PARC Discussion

Nick opened up the floor for questions. He started by discussing the status of the PARC activities. First, he commended all the PARC members for the great work accomplished to date. He talked about his passion for a performance based NAS and how important that is to the FAA. As an example, Marion Blakey talked in an FAA wide Town Hall meeting on Nov 15th where she mentioned the great relationship between ATO and AVS and what was accomplished with the RNP program in FY05. The FAA published six RNP approaches and we currently are looking at our plans for six more in FY06. That is not good enough. The FAA is looking at our resources to determine if we can do a total of 25 from the list of airports provided by the PARC.
Nick mentioned he is highly interested in the autonomous aircraft. What he means by that is aircraft centric operations or an aircraft that is as independent as possible from any ground based infrastructure. China, who is now installing their air traffic system, is not going to build what we have. They're going to do it the "right way", unconstrained by airspace design. Will that evolve into an autonomous aircraft? And if it does, what do we call it? Right now, there are no answers to this. Nick stated he is a proponent of synthetic vision systems to get to a point of equivalent visual operations in the terminal area. Equivalent visual systems is a big component of the NGATS. Nick visited NBAA and they now see the green light from the FAA that we are willing to listen without compromising safety. It challenges the paradigm of CAT I, II and III. Nick asked for ideas on what needs to be articulated to leverage the work that's already been done in this whole autonomous aircraft/equivalent visual operations arena. The FAA will continue to explore how we evolve to an aircraft that's not constrained by what we have today. We want to support the vision of NGATs, JPDO, etc. The FAA has the responsibility to pull together the work that's already been done and to discuss these ideas in the right forum. Right now Nick is

leaning towards RTCA as that place where we can all pull together to get this work accomplished.

If we look at the aircraft produced today, we know they are going to be in operation for the next 30 yrs. This is causing manufacturers and operators with this same vision of the future to consider how to equip the airplanes built today. If we are to move things forward on the autonomous airplane we need to consider how these aircraft built today are going to fit into the performance based system requiring X performance. A question was asked about the possibility of FAA requiring retrofitting the fleet. Nick stated that retrofit is expensive and it is not in the discussions. It needs a business case before that can happen. But we can start addressing the performance capabilities and plan as much as possible for the JPDO future. Nick visited Honeywell recently and went aboard a Cessna 421. The cost is going to be driven to a lower level, because there's a heightened level of interest from the world's aviation community.

Question (Don Porter): With the new RNP SAAAR procedures all the airlines could have used these "yesterday" but several can not afford the new capability and for others the software updates are not quite ready. What is the FAA going to do to help these airlines face these challenges? Nick: I do not want to be beat by any other countries. We need to be the leaders. If performance based policy were to be decided outside of this country, it wouldn't be good for the US aerospace industry. US air carriers are losing money, and the international carriers are not. Why? I don't have the answer.

Question (Roger Wall): It's always refreshing to hear you speak. As for ATC systems, we're behind the rest of the world. Our systems are antiquated compared to theirs. On the air carrier side, we are on the leading edge with the rest of the world. I just came back from 3 weeks in China. They are putting in a state-of-the-art system. I agree with you on using what we have, but how do we get the ATO system to respond to the industries need for these new capabilities? Nick: Russ Chew is working on this. He's pushing the envelope. You constantly have to push. There is so much potential out there. It's exciting what we can do with the technology that we have available.

Question (Scott Foose): We need to hear about capabilities. We need to keep the CEOs in the loop and up to speed. Unless we have the information about capabilities at the same time, we're not going to be able to keep up with the pace. Nick: I'm open to any suggestions on how to reach CEOs and CFOs. These are the folks today that are running the airlines.

Question: (Frank Alexander): Maybe the Administrator can host a meeting of CEOs and CFOs and feature you as the speaker. She definitely has the ability to attract people to meetings. Nick: I'll mention that to her. It's definitely a good idea.

Question (Doug Arbuckle): I'm hoping to see work on RCP that's the reason I'm interested in PARC. This group has helped facilitate cross communication between all the different groups. Nick: There are several activities around communication. RCP and this group belong here in my opinion. PARC is the right place, I believe. We need to bring all that activity into the PARC.

Question (Roger Wall): We don't disagree with that. For RCP, do we want to go lockstep with Eurocontrol or do we want to have another opinion. We'd like to have

a reality based approach not a political approach like Europe. We were waiting for Doug to tell us what to do, and the work that's been done in the PARC. We don't have a problem with RCP, RSP, and RNP. They are the only way we can go with the system. We need to tie the groups together. I'm disappointed in that respect. We've got to get there, as we move from the use of current equipage we need to make sure the FAA is moving with us. We have to go forward in the procedural context. If we want to be leaders in aviation we need to have good strategic plans, building facilities, etc. we need to be doing things, not just talking about them. And that's the key. If you can show your CFO there are steps being taken then you can have a conversation with them. What do we get for the investment is the question? We need to show them the benefit. Nick: I agree. When we see what's going on in Atlanta and DFW, a 50% reduction in communication. Let's align with the priorities and the people who are working these issues.

Roger Wall: Successes in Atlanta and DFW we'll be able to see in other places. We need better communication amongst ourselves. We have to have forums where we get together.

John Ackland: The FAA needs to understand the realities of the business case of manufacturers and how aircraft capabilities are added to the base models. Airplanes are built to operate internationally. Whenever we have to figure out what to capabilities to develop, we have to look at the global picture. Everyone does this a little differently. We have to build planes so that we can fly around the world. The bottom line is unless the several state requirements congeal into a common view, we'll have a very difficult time building these airplanes. Even if the US is the world leader, we still need to have a common view with the rest of the world. When countries start going in different directions, the manufacturer has big problems. From an engineering standpoint you can work a lot of things, but unless there are business benefits we won't be able to do what we need to do. We have to go through reality checks of what we can and can not do. Nick: This is a multi-tiered effort. The PARC has led the way in the technical arena. The PARC deserves kudos for developing the RNP SAAAR criteria. That's leadership! If we don't exercise leadership, someone else will. Total leadership requires leadership at the political level. This is where the JPDO is focused, coordinating across the government agencies to ensure compatibility.

John Ackland: It's good that JPDO is thinking outside the box, but I don't know if it's practical. We have to deal with the inventory we have and the inventory we'll get, we have to look at forward fit and retrofit to be totally practical.

Nick: I think JPDO and NGATS are real. You cannot realize the future described by NGATs unless you buy into the performance based NAS. We need to align at the political level. I see real tangible information coming from NGATs.

Doug Arbuckle: JPDO has been doing the work within the FAA so far. We created NGATS to involve members from industry so there can be an interaction across both government and industry stakeholders. Boeing has identified a representative.

Steve Hickok: I love technology. I represent an industry that has much smaller technical problems to solve, but the assets allocated by the FAA to these are sometimes lacking. Achieving SNI for example. The problem I see is not in that, but the institutional barriers that arise. How do we get from being able to talk about

technologies and being able to get past the bureaucracy so we can implement this technology? Nick: The FAA Flight Plan describes at a very high level how we are going to implement the performance based NAS. AVS has a business plan that addresses our six lines of business. This plan describes what AVS will do to satisfy the requirements in the Flight Plan. Since we have limited resources we have to identify priorities to address the flight plan first and then we can work on AVS priorities. There is quite a bit going on. In AVS, we as regulators are very good at telling you to step up to the plate and implement safety. To ensure we task ourselves in the same way we regulate the airlines, AVS is pursuing an ISO 9000 certification. As you all are aware, that is no small task. ISO 9000 is the tool we're using to assist us in improving the system. Through this process we explore ways to leverage our limited resources. I don't agree that we're not addressing issues. You have to start with the vision that is in the flight plan and then proceed. Competing in the international forum is our goal.
One last comment, Kudos to MITRE for a job well done on the performance based NAS DVD.

AC90-RNPSAAAR – Chirasello/DeCleene

AC Status, FAA resolution on critical issues with Peaks and Obstacles, changes between comment version and final, and schedule for AC and Approval activities.

John McGraw stated that the internal coordination is completed. The final AFS-400 review is underway. We expect to have it signed out within a few weeks.

Atlanta RNAV Benefits presentation.

Ken Speir updated the PARC on the implementation of RNAV SIDS/STARS at Atlanta. The initial implementation was intentionally kept simple. We knew the procedures would need to be optimized after we gained operational experience. We are working on those now and expect some updates in April 2006 that will optimize what we have. Then we can realize even more savings than we are seeing now. The air traffic controllers have now bought into it heavily. Delta Airlines is very pleased with this effort. Ken pointed out that the results presented include all of the airlines using the RNAV SIDS/STARS at Atlanta. A lesson learned from the Atlanta implementation is the need to explain to the controllers the benefits of the RNAV routes to the operational user.

Brian – Q on ADSB – Blakey said it would be the backbone for the NGATs, and with the money problems, could you give me what the roadmap? What would be the initial implications of ADSB.

Nick – performance side of the FAA belongs here. We should be prescribing…
I believe we need to bring this tech into the cockpit. Push the envelope w/o compromising safety.
I do have a concern about the system.

Situational awareness.
I like the notion of pilots being very much a part of the decision making process.
There's more that needs to be put in the cockpit.
Internally we're mapping our entire org. – the way to conduct the work, the process.
I love what we're doing with the new radar that automatically scans…

Surveillance belongs here. We need to know where the priorities are. PARC has the authority to make recommendations…

GA is important and growing.
We're being vigilant and proactive …
GA community can benefit…so they should have the kind of precision guidance that's possible to have today. WAAS approaches and precision, and it needs to be added to the future.
WAAS is turning in some very impressive figures so we need to take a look at it.

10:35 – 10:50 Break

10:50 – 11:35 Critical Schedule and Program Review- FAA/AMTI
Expected Result: PARC awareness and agreement on detailed activities/schedules, and roles in each (i.e. action, review/comment, etc). PARC assigned actions on any proposed changes or additions.

Tann has been working with Pat Zelechoski over the last month to create a network that portrayed the near, mid, and far term operational implementations described in the Concept for a Performance Based NAS white paper dated July 2004, the Oct 2005 version of the RNP Roadmap, and the August 2005 letter from the PARC to AVS-1 outlining the Critical Decision WG recommendations. The network was coordinated with several people including Suzanne Porter, AFS-410, AFS-420, ATO-R, AIR-130, and Jeff Williams and John McGraw. With the PARC concurrence of the Roadmap and the Critical Decisions WG items, this network will be used as a planning aid to concentrate resources in the priority order shown. It will provide visibility for tasks that start in the mid or far term that need extended analysis time or require extensive time to develop policy and regulatory documents. In addition, the planning will include milestones that specify when PARC input is required by the FAA, when the FAA expects to provide documents to the PARC for their review and/or comment, and other interaction expected from the PARC members. Once these requirements are known, the PARC working groups will know what is expected and the time frame for working the item, so they can ensure that their plans and schedules are in sych with FAA needs. The goal is then to review these work group schedules at the PARC bi-Weekly telcons.
Pat Zelechoski emphasized that this is merely a depiction of PARC recommendations that will be used as a planning tool for tying all projects together and seeing the timelines. We look to you to help us evolve this thing.

A statement was made that we are all competing for the limited resources of the FAA and the organizations supporting the PARC. What we need to figure out is how to allocate them.
Jeff Williams stated this is not etched in stone, priorities change. What it does do is to know what it is the PARC needs to deliver to the FAA to agree upon the goals that we need to deliver according to the FAA Flight Plan. And it is flexible to an extent. It helps the PARC manage ourselves. It was pointed out that Jeff Williams is the ultimate program manager responsible for delivering the procedures to the NAS but that the RNP program is a team effort. ATO works very closely with AFS (John McGraw). The aFS-400 projects that are identified through the planning process will be monitored by Pat Zelechoski to ensure the project scope and schedule are consistent with RNP program needs. Tann Pinney will be working with the PARC work groups and action teams doing the same.
The planning for the priority capabilities as identified in the CDWG letter will begin in December with the RNAV study on independent parallel approaches and with the FASDAWG work.

11:35-12:35 Lunch Break

12:35 – 1:05 Critical Decisions WG Progress and key discussion issues for PARC action - Davis
Expected Result: PARC agreement with issues, actions, priorities, and recommended plan of action, Status or Recommendations on ICAO RNP and RNAV and schedule

The CDWG held a meeting on November 14, 2005 to prioritize the critical decisions outlined in the August 2005 recommendations sent to AVS-1. Jerry Davis presented the results of that meeting. An observation was made that pointed out the oceanic RNP-10 and RNP-4 nomenclatures are equivalent to what PARC has defined as RNAV-10 and RNAV-4 in that the aircraft flying with these certifications do not have containment capability on board. Containment is maintained using ADS-C and other procedural methods.
A question was asked concerning the priority of parallel approaches for ILS. It was recognized that the need is quite high, but it had been placed in the order shown due to the amount of time required to establish the standards and criteria. The work for Houston is being done now and is due out Q3FY06.

Frank – I thought we were going to not talk about the “now,” and then we’re not going to include DME/DME criteria, and RNP everywhere won’t be included in the mid-term.

Hassan – there is still a number of items that are being coordinated between the Roadmap and the Critical Dec. WGs.

Jeff – TERPS criteria has to be coordinated with OCP.

FMS/DME/DME was deleted from Jerry's slide (Summary of Operational Capability Types – RNAV operations subbullet).

Frank – quoting from Opspec. (authorized Enroute and terminal, but not for navigation, and we can use GPS or IRU then.)

RPAT discussion

Jerry – all of this criteria is public.

Jeff – the details would be in a lower level document.

Ken – it would be nice to have a realistic very high-level info.

Jeff – we want to take it one step further than that to show you what the next steps are.
Jeff Introduced the RNP video.

Jerry continued his presentation.

Frank – concern – Q-route with different levels of performance in the future…we're trying to grapple with the following – how do we provide the crew with a simple chart indicating the expected level of performance. We haven't reached a resolution so it's certainly an issue we have to work on.
Frank also explained the SIDS and STARS on Jerry's presentation (in Terminal).

Brian – eventually you might want to make it a part of PCPP action team.

Jerry – eventually it will go there.

Mike Cramer - RNP less than one requires inertial, right?

Jerry – what critical decisions have we missed, and it's also open for discussion.

Bruce's white paper – Kathy couldn't find it.

Jeff W. - Training modules are being worked already.

Jeff - To educate CEOs we need to come up with a briefing about RNP in non-technical language, and try to convince them to start investing in this NOW.

1:05 – 2:35 Roadmap Update – Shahidi
Expected Result: PARC discussion and agreement with current draft, actions for final draft and schedule. Where does non-PARC coordination fit with final actions at PARC?

See Hassan's briefing on the site.

2:35 – 2:50	Break
2:50 – 3:20	Communications Working Group Roadmap – Tedford/Kraft Expected Result: PARC discussion and comment on total set of roadmap activities and recommendation on levels of non-PARC coordination

Tom's giving some background – see presentation on the site.
Really need some industry leadership to join us to show partnership between FAA and industry in doing this work.
Data link steering group is based in France.
They just had a meeting in September.

We're not synchronized with RCP and RSP etc…

Hassan – we've decided to stay with performance-based NAS, but where its' appropriate we'll have RSP and RCP and where we have synergies. The video was an example of that.

Tom Kraft - We have to look at the retrofit, at the existing fleet, at what we've got.

Randy – is RCP Roadmap going to be used outside your WG?

Tom – right now it's available to over 450 people around the world (on KSN site).

Hassan – what's the process of implementation?

Tom – in August we sent the draft to everyone on the PARC, and got some comments, however I'd like to have an industry chair before continuing this work.

Hassan – so who sees this Roadmap at the FAA

Dave and Tom – Nick, and reality, I don't know for sure.

The office of primary responsibility is ATO-P, which is Ann Tedford's office.

John – until the recommendation is made, I don't think it's going to be decided where it'll live, because it's dependent on the priority it presents, etc.

Roger – this has to be an operational contingent, since it's not a science project.

ATMAC is not what I hoped it would be.

ATO is going to have to come to the table and play in procedures, phraseology and everything in the CNS system.

We can design all we want, but we need to implement.

Get the name of the JPDO guy who attended the meeting.

Roger – we're not leaders in aviation. Our real progress is miniscule.

Tom – we'd like to have at least one meeting before the holidays.

3:20 – 3:50 FASDAWG Status – Demosthenes
Expected Result: PARC discussion on key issues, and schedule
See Ted's presentation on the site.

Jeff – this is very important.

Ted – we're trying to do the most difficult task first, which is not how you usually address a difficult problem.

Jeff – there are four total procedures in DCA, and three of them are D/A in a turn procedures. So if you can fix JFK first…
This particular DA in a turn issue is not a centric issue. We can solve it here and get operational approvals which allows us to get international approvals.

Ted – I agree with you totally. We're talking about a really complex problem here. We're going to have resources to solve it.

Jerry – two issues: how do you fly an approach and how do you design it? These are two different issues.

Frank – add to this list: some airplanes disconnect the autopilot by DA.

Ted – somehow we need to come up with a description on whether it's allowed or not allowed.

John – you might want to say that this is the max angular offset.

Ted – this is one of the issues.

Add Ted's Actions to the Action Item list from the presentation.

Ted – the trick would be to find who to ask for input. This is encouraging.