PARC Meeting Summary
April 6-7, 2005
MITRE

Day 1

Meeting Overview & Agenda Review
Dave Nakamura pointed out that the agenda was organized to summarize some of the key tasks and issues as a lead-in for discussion with Nick Sabatini and Mike Cirillo on any insights and views they could offer to the group. Following these items would be a number of tasks and issues in progress for PARC determination of a course of action or discussion on the work products and activity.

Roadmap for Performance based Navigation
Hassan Shahidi reviewed the activity to update the Roadmap, reflecting the experience gained in the last year as well as the emergence of more specific issues on implementation through the various working group and action team activities. Some of the key points raised:

- The roadmap for RNAV everywhere and RNP where beneficial represents the starting point; as more experience is gained with RNP, it is expected that the operational benefits will act as a catalyst in a transition to performance-based operations.
- With RNAV implementation, the diversity of the aircraft and system population has required a starting point that reflects two discrete levels of capability and performance to be factored into operations and airspace design. The working terms Type A and Type B, while accepted the working group and PARC, has resulted in some issues in charting, and operations, as well as with flight plan designators, that require further attention and future recommendations.
- As we progress along the roadmap, attention is required on equipment requirements that consider required and associated capability and functionality, as well as the integration of aircraft in operations, to achieve as much commonality in operations as possible, and as a specific guide for new aircraft in development. The former point is critical since that is where the largest part of the population lies.
- The Roadmap update will be coordinated with other concept and planning products such as the OEP, Flight Plan, etc to ensure consistency and appropriate phasing and priorities in PARC activities.
- The initial steps being taken with RNP SAAAR implementation are the foundation for the necessary experience, processes, procedures, and implementation planning to enable "mass production" for public RNP approaches. Additionally, the experience gained from RNAV arrival/departure implementation at Las Vegas, Dallas-Fort Worth, Atlanta, and elsewhere is invaluable in the operators and ATC understanding of RNAV operations that directly benefits RNP operations. This lower level of detailed work and activity has resulted in a perception in senior levels of the FAA that nothing is happening.
- Both Nick Sabatini and Mike Cirillo agreed that such information from PARC should be shared/briefed to other groups such as the ATMAC and its Requirements Working Group to increase awareness and obtain feedback. In particular, PARC and ATMAC need to work together. Having a number of common members should help make this easier.

Both Nick and Mike agreed that the level of work and progress are going well and proceeding in the right direction

Operational Implementation Benefits – Shahidi
Hassan reviewed the specific RNAV and RNP implementation activities including Q-Routes, SIDS/STARS, RPAT, and RNP approaches. A key part of the latter activity was the determination of sites, benefits, and priorities for the top 10/100 sites. Key points:

- The organization of sites into three tiers is not intended to prevent or delay implementation at a lower tier site.
- The benefits will guide the implementation of public RNP operations, which criteria have been recommended to the FAA.

PARC Recommendations - Nakamura
Dave briefly reviewed a number of key products and activities in the last year. The items included the RNP SAAAR Notice 8000.287, Public RNP Criteria, AC90-USRNAV (aka AC90-100), AC20-DB (still in FAA legal), and performance based RNAV.

Critical Decisions WG – Davis
Jerry provided a report on the discussion items from the first working group meeting. Specifically, he reviewed the agreements on the RNAV and RNP terms and definitions, including the aspects of performance for RNAV and containment for RNP. An important factor is that while VOR, DME and ILS systems are expected to be accepted for a long time, the direction being taken is sensor specific to a degree i.e. GPS, DME/DME and DME/DME/IRU are the main combinations that will be accommodated. The group discussed the intended relationship of these sensors, performance and containment on RNAV and RNP separation and obstacle clearance standards. For RNAV separations to be the same as RNP, mitigation will be required i.e. radar. It was noted that these changes needed to be supported by other tasks and products such as the operational safety assessment process and methodology. Work is already underway for Enroute and terminal separation criteria that will for the moment follow conventional risk assessment practices and methods.

Action Item: It was agreed to give PARC up to May 5 to comment on the proposal from the group. Comments will be part of the follow up action of the group. The group will also plan another face to face for these issues as well as address issues such as converging approaches.

It was noted that there is a significant amount of work associated with the CD WG items and that the Roadmap will serve to establish what must happen first.

Communications WG – Kraft/Tedford
Ann reviewed the groups ToRs pointing out that they are concentrating on roadmaps for Data Link and RCP. She pointed out that there is much activity going on in places like ICAO, however, there is no panacea available. There was general acknowledgement that there is a need to balance communications, navigation and surveillance components in performance based operations.

Why a separate roadmap was being developed was questioned. This presents the risk of not taking a systematic and integrated approach for addressing operational requirements. Other issues with technology compatibility, frequency congestion, coordination and harmonization were also raised. For the latter, it was noted that the ATMAC Performance and Requirements Working Group in RTCA is also receiving input from the ATO on operations, benefits, communication technology and applications such as those with data link.

This work does have to be connected to operations. We need to come up with a common strategy to interact with Eurocontrol and the rest of the world. We need some harmonization globally for this. The airplanes are being equipped. The Future Comm. Group is talking 2015-2030 as far as the fleet goes and equipment etc. we can shoot for 2030, but it's not going to be done by 2015. We need to be working across the globe, not country to country. It was suggested that a harmonized global communication system should be our goal.

Lunch Break

General Discussion

The kickoff Topic: Working with the FAA to get things accomplished
Nick Sabatini pointed out that PARC is one legal body through which work can be accomplished. The ATMAC with its tie to the ATO is another group. However, we are all working on behalf of the Administrator. This is important to note and well as having principal organizations communicate to Russ Chew and Nick, so that they are effective in their communications with the Administrator. Nick cautioned on the potential for conflict with separate groups. However, it was noted that with common members and a commitment for coordination and harmonization, differences should be at a minimum. With PARC aiming primarily at recommendations for criteria, rules, policy and guidance relative to operational concepts and requirements, and ATMAC focusing on budgets and implementation priorities, there is an opportunity for complementary activities. Mike Cirillo noted that John McGraw and Jeff Williams have close coordination and are in lock step constantly.

Nick also emphasized that in proceeding forward, that it takes more than the efforts and products of this group, that CFO's need to be on-board. He raised this issue because of the lack of demand for RNP and performance based operations. It was pointed out that with the current activities and positive results coming from Las Vegas, Palms Springs, and elsewhere, operators and CFO's will see that the benefits and potential are real, thus leading to the expected demand. More significantly, the initial applications were intended to get more experience with RNP, implementation processes, and issues on a scale where they can be more easily managed. This will make follow on implementation and the benefits of public operations much easier. This is what it will take satisfy the CFO's and will lead to further benefits through economy of scale.

The early successes are necessary to propagate RNAV and RNP into more areas, as well as broadening the users in the flying public. The FAA recognizes this but also emphasized the need for PARC to develop guidance and criteria that supports quicker and broad application. It was pointed out that this is a big educational effort and there is a need for more public meetings not only for the CFO's, but also for airspace users for reequipping a fleet. We have to have something real strong in terms of business case.

Summary of other PARC Activities – Nakamura

Dave briefly touched on the topics of the White Paper Implementation Plan, Public RNP Aircraft Qualification, Safety Assessment Methodology, etc. The implementation plan points to simplification of operations and procedures criteria to RNAV, RNP SAAAR and xLS. The discussion that followed raised the issue of containment surfaces, obstacles and Part 77 requirements on obstacle evaluation areas. It was pointed out that the FAA does not have a say about what is built around airports. This raises the issue about construction and obstacle notification. While it was pointed out that there has already been work on Part 77, an action to clarify this issue and potential effort was given to Wally Roberts and Mike Cramer.
Action Item: Wally is to outline the effort, scope it and put together a schedule.

The public RNP SAAAR aircraft qualification guidance is in work. The FAA is using the SAAAR Notice as a basis of deriving this material. A draft AC should be ready for the PARC is approximately a week. The chair pointed to the need to allow for adequate review time in this schedule, since the plan was for finalized material by the end of April.

The Operational Safety Assessment group is also meeting and laying out the tasks for beneficial upgrades to the existing collision risk model and the development of methodology more tuned to performance based operations.

The Human Factors working group under Kathy Abbott and Carol Kerns is just beginning. There hasn't been enough consideration of human factors such that this group will be tied very closely to other group activities to address human factors and assure consistency. A more detailed brief out of plans and activities was suggested for the next meeting.

Mike Cirillo commented that he'd liked what he'd heard so far. He offered the constructive point that some parts of the discussions seemed a bit tentative and had an "iffiness" that need to be replace by a firm view. He reminded the group that the administrator's view of RNP is that we are absolutely dependent upon this to solve airspace issues and provide consolidation opportunities.

FAA and PARC Integrated Task Schedule – McGraw/Williams/Nakamura
Dave reviewed the long-standing issue for program type schedules for PARC to better manage their work, and priorities. The FAA pointed out that they have moved toward an enterprise project management system that will include PARC. Discussions as recent as this week will lead to a first cut for PARC. This is critical because work so far has been

somewhat ad hoc, leading to numerous surprises on priorities and need dates, where there was little time to react.
Action Item: At our next PARC meeting we'll have a template of the schedule with all of the deliverables, Action Items, etc. The document will be updated on a regular basis. We update ours on a weekly basis.

RNP Alerting AT – Cramer
Mike reviewed the sensor specificity issue i.e. only specific sensors are being allowed for RNP operations and the need for action to allow multi-sensor operations and systems with RNP alerting with less restriction

Action Item: It was agreed to form the AT; Mike Cramer has the action to revise ToRs by Monday or Tuesday of next week, April 12th, Mike C. has the idea of who will be on the Action Team (Universal, Honeywell…etc.)

Public RNP Criteria Review – FAA
Bruce DeCleene reported that while the focus has been on the TERPS criteria for the public SAAAR, there also has to be the ops approval guidance, AC-90-SAAAR. The FAA is handling this by taking the notice 8000287, and converting.

It will include the application process. The plan is to also have an AC and the HBAT, which will be the guidance to the inspectors on how they give this ops approval. The goal is to have it ready within a week for PARC to take the first cut at it. Bruce pointed out that aircraft specific operational approval would shift to OEMs – to meet their piece of 90 SAAAR.

This discussion resulted in issues with charting and how to make the necessary and appropriate changes in through the Aeronautical Charting Forum. The discussion touched upon the right level of participation, getting the right inputs, receptiveness to inputs outside the ACF, the formation of a group in PARC or the ATA FMS Task Force, how others such as Jeppesen would implement charting changes, etc. I

Action Item: Mike Cramer will send an e-mail concerning the charting issues.

Action Item: Wally Roberts, Frank Alexander, Mike Cramer, Kim Rackley, Ken Speir, Pedro Rivas Form group, Christen Fuson - AT – will get the updated proposed charts and info from Mike Cramer's WG and make recommendation for Pedro to take to the Aeronautical Charting forum – due date – end of next week to start the group (have most of the pieces) Mike Cramer will get the stuff from Tom Schneider.

ATL RNAV Issues – Frank Alexander

Frank reported on discussions that took place at the recent ATA FMS Task Force that require PARC attention and recommendations.

One issue was to seek PARC support the Task Force issue of the standard way of coding. The second issue was with the terms Type A and Type B.
It was agreed that PARC support the first issue. For the second, however, Bruce pointed out that FAA and Industry agree with these terms and that they are being used in many places and are widely in use in documents. To change now would not be good for the efforts and priorities.
Action Item: Mark Steinbecker will propose how to chart it, and that will get forwarded to PARC and PARC will comment.

Action Item: Type A and Type B – Frank and Ted will make a recommendation to PARC on how to work it.

PARC Process Check
Dave asked PARC members for input on what was working, what wasn't and suggestions.

Action Item: Olga will post open discussion item for comment

New Business and Future Meetings
Wally Roberts reviewed a number of long standing issues with radar vectoring and MIA and MVA, as well as emerging technologies such as enhanced vision flight systems. It was made clear that there is not a simple set of solutions. It was agreed to organize the issues and potential actions.

Agenda Item for next PARC – Review status of MIA and MVA work.

RNAV SAAAR criteria.
It was pointed out that the Working Group is waiting for a decision by AVS for what steps will be taken. John McGraw noted that the FAA priority is coming out with te public RNP criteria and will follow on the RNAV after. The hope is that many of the common issues will be resolved.

Action: Tom Sorrell/Mike Webb will coordinate on the difference, Gap analysis.

Next Meeting
PARC Members Meeting - Tentatively May 25-26, 2005.
Location TBD.