

# PARC Navigation WG Purpose / Activity

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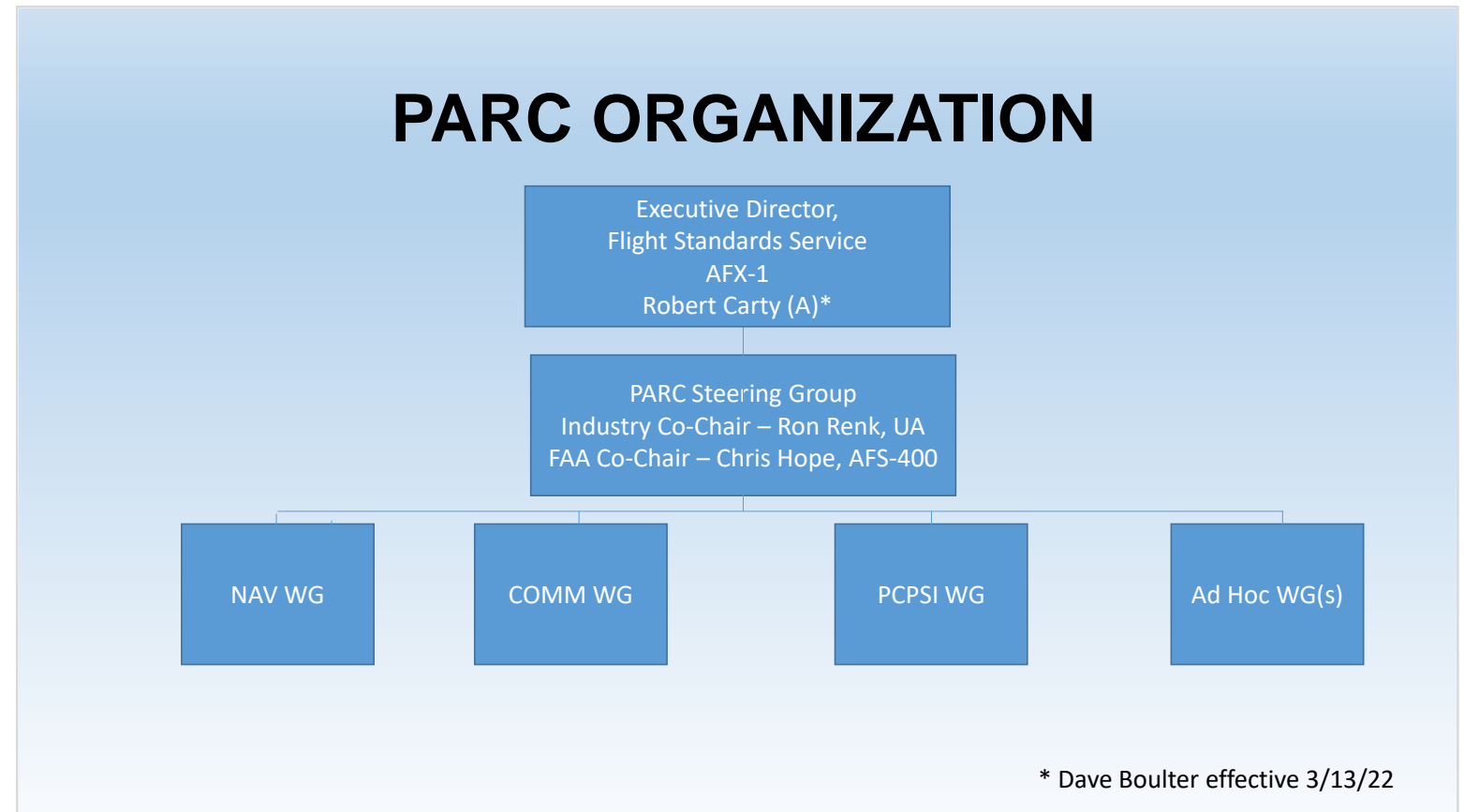
AACA, MARCH 1, 2022

# PARC Structure

PERFORMANCE BASED  
NAVIGATION AVIATION  
RULEMAKING COMMITTEE

# PARC Organization

- ▶ The PARC provides a forum for the U.S. aviation community to
  - Discuss, prioritize and resolve issues
  - Provide direction for U.S. flight operations criteria
  - Support FAA NAS modernization plans
  - Produce U.S. consensus positions for global harmonization



# Navigation Working Group

- ▶ **Originally the PBN Criteria Working Group (circa 2007)**
  - ▶ Limited to issues with PBN procedure design criteria during implementation
- ▶ **Terms of reference expanded to include operations and navigation systems (circa 2014)**

# Terms of Reference

OPERATING RULES FOR THE  
WORKING GROUP

# Statement of Objective

- ▶ **The WG will perform the technical work necessary to understand challenges associated with PBN implementation that derive from**
  - ▶ **Navigation system qualification or**
  - ▶ **Navigation system operation when**
  - ▶ **PBN procedure design criteria are applied**
- ▶ **The WG will propose new criteria for new operations, and/or changes to existing criteria to reduce those limitations**
- ▶ **It will enlist subject matter experts from operators, FAA and industry to improve operational safety and performance by proposing practical changes to the underlying criteria**

# Statement of Scope

- ▶ **The group will select and prioritize tasks (issues) that are specifically related to navigation system utilization under current criteria (procedure design, aircraft qualification, operational approval) that are technical or operational in nature and can be resolved by technical or operational means**
- ▶ **Sources of tasks or issues will include those compiled and recommended for work by the PARC Steering Group and operators and implementers of PBN procedures, although other sources may apply**
- ▶ **The group will target independent and focused issues to provide specific and implementable recommendations**

# Other Guidance

## ▶ Deliverables / Products

### ▶ When issues are resolved, the Nav WG will provide:

- ▶ A set of recommended changes or additions to specific parts of existing criteria
- ▶ Guidance for when to apply and how to use the changes

### ▶ Rationale for significant changes will be included along with an assessment of anticipated operational effects and their mitigations

## ▶ Special Considerations

- ▶ Requests from operators, FAA and industry can be considered along with those from the PARC SG members



# Current Membership

- ▶ **Avionics OEMs**
  - ▶ Collins, Honeywell, Garmin, Universal
- ▶ **Manufacturers - Airbus, Boeing**
- ▶ **Operators**
  - ▶ American, Alaska, Delta, Frontier, Jet Blue, Southwest, United
  - ▶ Horizon, NetJets, Republic, PSA, SkyWest
- ▶ **Aviation Organizations and Regulators**
  - ▶ ALPA, AOPA, APA, FAA, MITRE, NATCA, Nav Canada, NBAA
- ▶ **Membership is by invitation, these are not public meetings**

# Summary Accomplishments

A FEW EXAMPLES OF  
PREVIOUS WORK

# Recommendations

- ▶ Harmonizing obstacle evaluation area width
  - ▶ Advanced RNP to be 2xRNP same as RNP AR (complete)
- ▶ Harmonizing vertical obstacle clearance surface (OCS)
  - ▶ RNP AR will now use the same final to missed approach construction as LNAV/VNAV (complete)
- ▶ Procedure design and operational constraint definition
  - ▶ RNP initial and intermediate segment to ILS, GLS or LPV final segment (complete)
- ▶ Precipitous terrain:
  - ▶ Allowing RNP AR final segment to overlay precipitous terrain (complete)
- ▶ Demonstration and evaluation of RF.TF concurrent ops (complete)
- ▶ RNP AR conversions to A-RNP where practical (in work)
- ▶ Adding A-RNP transitions to RNAV(GPS) approaches where needed

# Planning for 2022

- ▶ **The 2022 quarterly meetings (hope return to F2F by August)**
  - ▶ 2022 Q2 – April 27, 28
  - ▶ 2022 Q3 – August 10,11
  - ▶ 2022 Q4 – November 9,10
- ▶ **As always, questions or requests for copies of information can be directed to Mike Cramer ([mcramer@mitre.org](mailto:mcramer@mitre.org)) 616-402-3000**
- ▶ **Public website for the PARC history and accomplishments:**  
[https://www.faa.gov/about/office org/headquarters offices/avs/offices/afx/afs/afs400/parc/](https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs400/parc/)