ARINC Project Initiation/Modification (APIM)

1.0 Name of Proposed Project

Supplement 4 to ARINC 628: Part 5, Cabin Electrical Interfaces, Equipment and Wiring Installation Guidelines

1.1 Name of Originator and/or Organization

Cabin System Subcommittee (CSS)
Jecelin Peterson, Boeing

2.0 Subcommittee Assignment and Project Support

2.1 Suggested AEEC Group and Chairman

Cabin System Subcommittee (CSS)
Dale Freeman, Delta Air Lines

2.2 Support for the activity (as verified)

Airlines: Delta Air Lines
Airframe Manufacturers: Airbus, Boeing
Suppliers: Rockwell-Collins Seats, Zodiac Seats, Recaro,
Others:

2.3 Commitment for Drafting and Meeting Participation (as verified)

Airlines: Delta Air Lines
Airframe Manufacturers: Airbus, Boeing
Suppliers: Rockwell-Collins Seats, Zodiac Seats, Recaro,
Others:

2.4 Recommended Coordination with other groups

N/A

3.0 Project Scope (why and when standard is needed)

3.1 Description

ARINC 628 Part 5 will be updated to reflect the latest airframe manufacturer electrical installation practices and regulatory changes for airplane cabin interiors. Planned changes include the following:

- Add guidelines or references for meeting EN-3197 Electrical Wiring Interconnect System (EWIS) regulatory requirements for cabin interiors.
- Add guidelines or references for meeting SAE- AS50881 “Installation Rules” for wiring requirements for cabin interiors.
- Add bend radii guideline or reference for fiber optic cable (ARINC 802, etc.).
- Add guidelines for cable accessibility, spare wires, and application of splices.

The updates will support airframe and seat manufacturer proposal for inclusion of electrical installation aspects into a future revision of FAA TSO C127 (Seats).
3.2 Planned usage of the envisioned specification

New aircraft developments planned to use this specification yes ☒ no ☐
  Airbus: All
  Boeing: All

Modification/retrofit requirement yes ☒ no ☐
  Specify: Airlines refurbishing seats and cabin interiors.

Needed for airframe manufacturer or airline project yes ☒ no ☐
  Specify: driven by the need to update common definitions for the airplane
  programs and retrofit programs, and to support airframer and seat
  manufacturer proposals for the next revision of FAA TSO C127

Mandate/regulatory requirement yes ☐ no ☒
  Program and date: No mandate

Is the activity defining/changing an infrastructure standard? yes ☐ no ☒
  Specify:
  When is the ARINC Standard required? May 2020
  What is driving this date? Estimated future revision to FAA TSO C127

Are 18 months (min) available for standardization work? yes ☐ no ☒
  If NO, please specify solution: Not applicable

Are Patent(s) involved? yes ☐ no ☒
  If YES please describe, identify patent holder: Not applicable

3.3 Issues to be worked

Harmonize airframe manufacturer airplane interior electrical installation requirements,
and guidelines for meeting EWIS regulatory requirements.

4.0 Benefits

4.1 Basic benefits

Operational enhancements yes ☒ no ☐

For equipment standards:
  (a) Is this a hardware characteristic? yes ☒ no ☐
  (a) Is this a software characteristic? yes ☐ no ☒
  (b) Interchangeable interface definition? yes ☐ no ☒
  (c) Interchangeable function definition? yes ☐ no ☒

  If not fully interchangeable, please explain: __________________________

Is this a software interface and protocol standard? yes ☐ no ☒

Product offered by more than one supplier yes ☒ no ☐
  Identify:
4.2 Specific project benefits (Describe overall project benefits.)

Improved harmonization of electrical installation practices for cabin interiors, which increases standardization and reduces development cost of seats, other interior furnishings, and their installation.

4.2.1 Benefits for Airlines

See above

4.2.2 Benefits for Airframe Manufacturers

See above

4.2.3 Benefits for Avionics Equipment Suppliers

None

5.0 Documents to be Produced and Date of Expected Result

5.1 Meetings and Expected Document Completion

The following table identifies the number of meetings and proposed meeting days needed to produce the documents described above.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Mtgs*</th>
<th>Mtg-Days (Total)*</th>
<th>Expected Start Date</th>
<th>Expected Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplement 4 to ARINC 628 Part 5</td>
<td>5</td>
<td>3</td>
<td>Jun 2019</td>
<td>Apr 2020</td>
</tr>
</tbody>
</table>

* Boeing and Airbus will have ad-hoc team working on drafting updates to the subject document. Majority of work will be done in ad-hoc team meetings supported by Boeing and Airbus.

* The CSS Subcommittee has several APIMs and projects in-work. This APIM will be worked in conjunction with the other products.

6.0 Comments

This APIM opens the following ARINC Standards.

- **ARINC Specification 628: Part 5, Cabin Electrical Interfaces, Equipment and Wiring Installation Guidelines**

6.1 Expiration Date for this APIM

October 2020

*Completed forms should be submitted to the AEEC Executive Secretary.*