CONTENTS

1 General

The IEEE and SAE Joint Development Procedure [1] provides guidance on the joint development of market-relevant standards. There are some differences in the IEEE and SAE processes; this document outlines the differences and aligns the processes for the joint development of a standard.

2 Process

2.1 Starting a joint project

Figure 1 shows the approval of a project in both IEEE and SAE. The project has been approved in IEEE and SAE as IEEE P802.1DP and SAE AS6675.
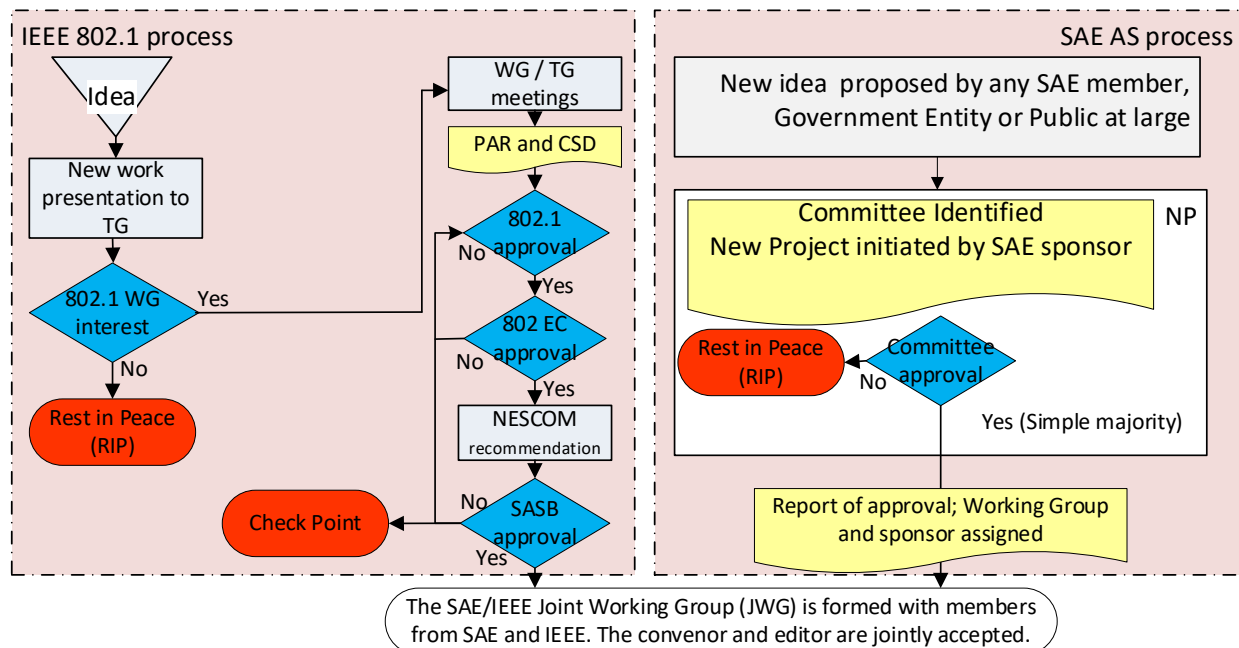

Figure 1 – Flow diagram for beginning a joint project

2.2 Drafting documents

The IEEE 802.1 process to progress the draft standard from the Task Group to the Working Group and then to the IEEE SA ballot level is mapped to the SAE process as shown in Figure 2. There are no known inconsistencies that need to be resolved.

IEEE 802.1 process   **SAE AS process**

| IEEE 802.1 PAR created; if SAE also agreed => JWG | JWG meetings | SAE WIP created; if IEEE 802.1 agreed => JWG |

initial n=0

Draft D1.n (TG Draft) ↔ **Draft D1.n created**

TG review Min 14 days — Draft posted to WIP Committee Reviews

Comment disposition ↔ **Informal disposition of Comments**

Work on D1.n — Work on D1.n+1

n:=n+1

TG review done? — No / Yes   Draft ready for balloting — Yes / No

initial n=0

Draft D2.n (WG Draft) ↔ **Draft D2.0**

WG ballot Min 30 days — Committee Level Ballot (28 days)

n:=n+1

Comment disposition ↔ **Comment disposition**

WG ballot >=75% — No / Yes   Committee decides To go next stage — No / Yes

initial m=n+1

Work on D2.m

WG recirculation ballot on changes in D2.m min 15 days

m:=m+1

Comment disposition

Substantial changes — Yes / No

In Scope new Negatives — Yes / No

>=75% — Yes / No

Check Point

802.1 forward to Sponsor ballot — Yes / No

802 EC forward to Sponsor ballot — Yes / No

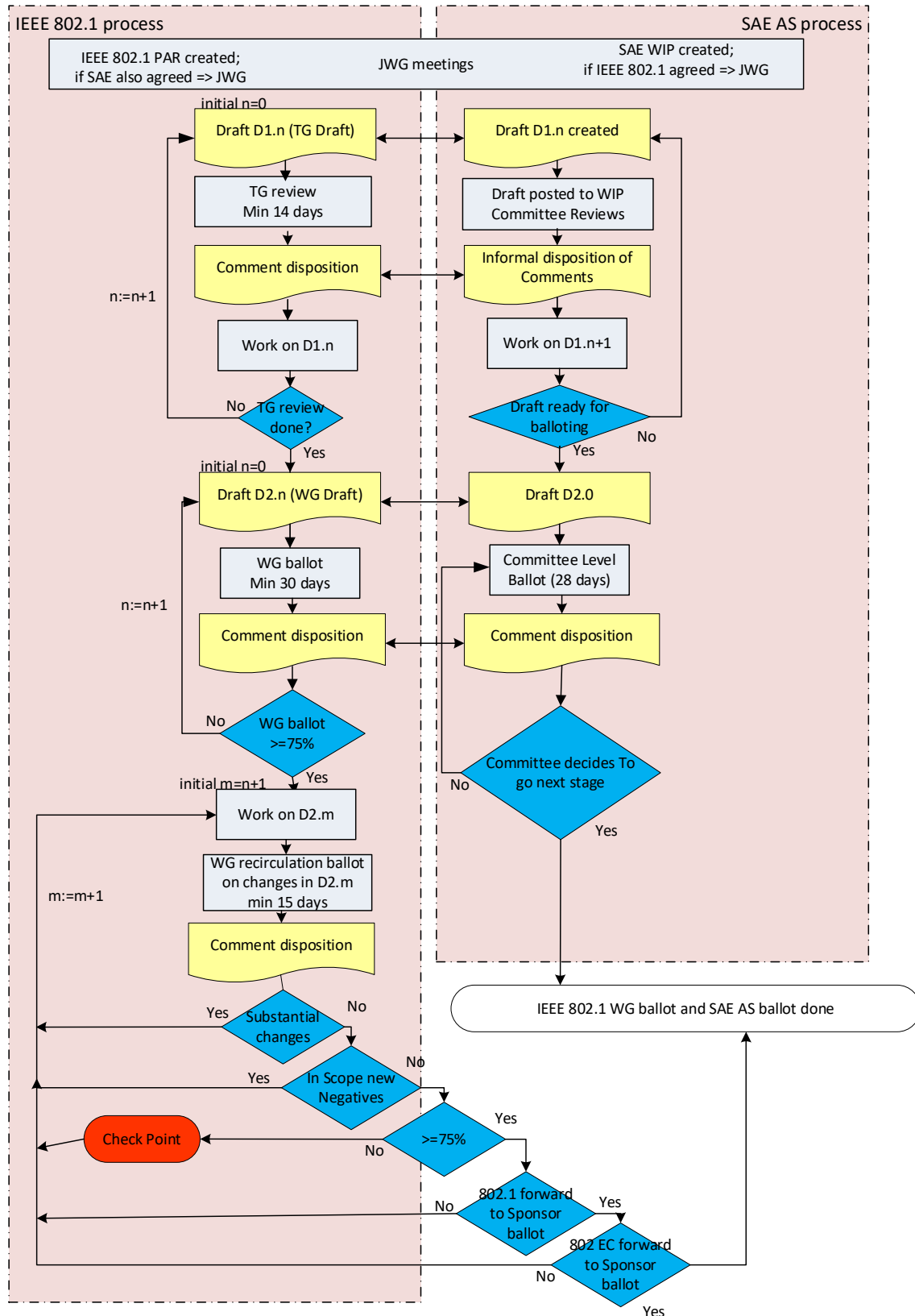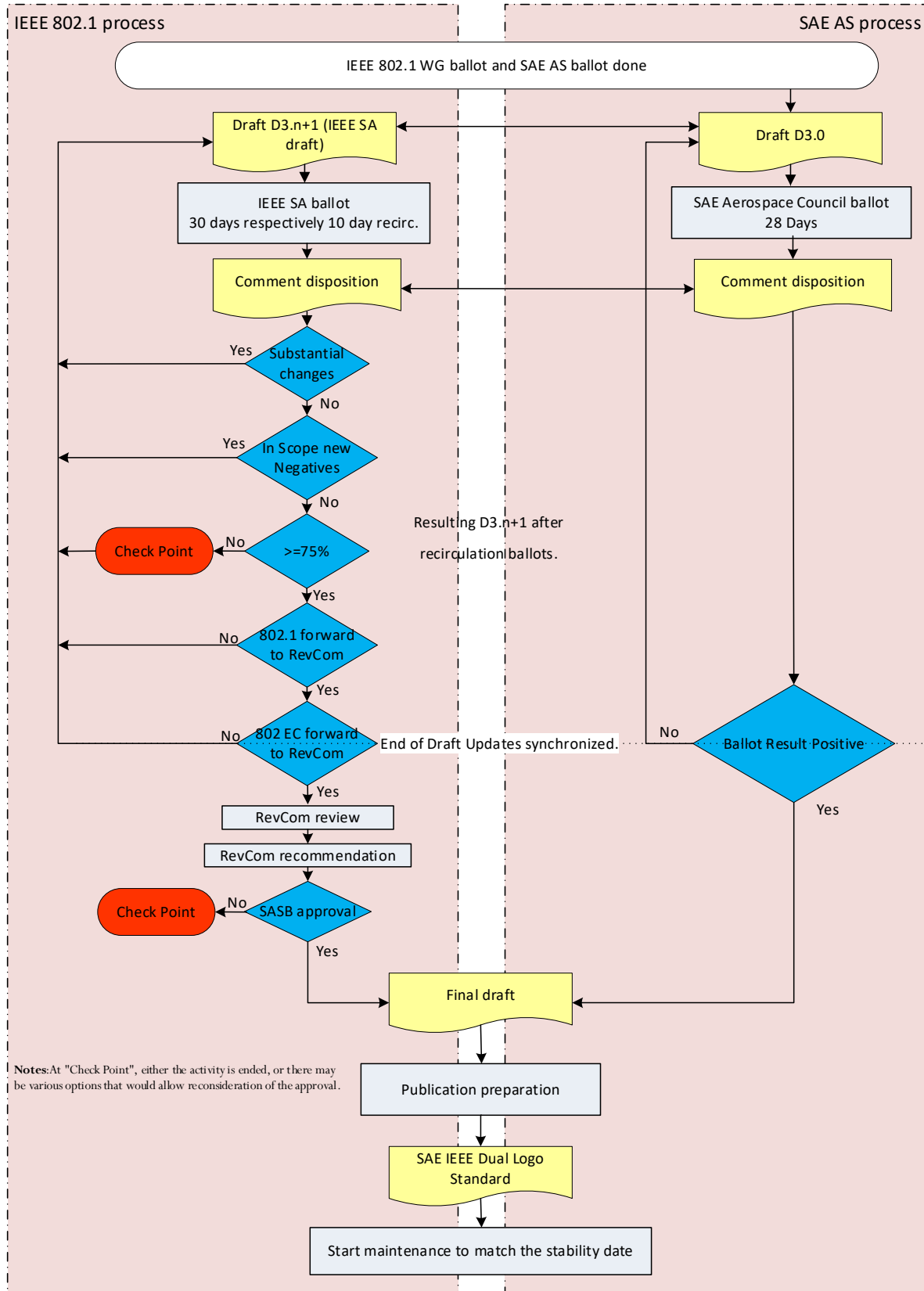IEEE 802.1 WG ballot and SAE AS ballot done

Figure 2 – Draft Development

The SAE committee ballot shall be synchronized with the IEEE SA ballot. The compiled comments of SAE and IEEE SA shall be discussed in a joint meeting and shall result in a joint comment resolution document. It is recommended to use the SAE comment document for IEEE 802 purposes also, but if IEEE 802.1 wishes to convert the SAE comment document into their database commenting tool, is up to IEEE 802 to decide. *Note: Mechanisms of comment disposition TBD.*

IEEE SA and SAE shall continue with recirculation ballots until the comment resolution is complete.

The IEEE SA Approval stage and SAE Ballot/Final Approval stage is described in Figure 3. Once balloting has been completed in SAE, the document is approved and ready for publication. In IEEE SA, final approval is achieved upon approval of the document as a standard by the IEEE SA Standards Board.

IEEE 802.1 process

SAE AS process

IEEE 802.1 WG ballot and SAE AS ballot done

Draft D3.n+1 (IEEE SA draft)

Draft D3.0

IEEE SA ballot
30 days respectively 10 day recirc.

SAE Aerospace Council ballot
28 Days

Comment disposition

Comment disposition

Substantial changes — Yes

In Scope new Negatives — Yes

Resulting D3.n+1 after recirculation ballots.

Check Point — No — >=75% — Yes

802.1 forward to RevCom — No — Yes

802 EC forward to RevCom — No   End of Draft Updates synchronized.   No — Ballot Result Positive

RevCom review

Yes

RevCom recommendation

Check Point — No — SASB approval — Yes

Final draft

Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

Publication preparation

SAE IEEE Dual Logo Standard

Start maintenance to match the stability date

Figure 3 – IEEE SA and SAE Ballot/Final Approval

3 Differences between IEEE 802 and SAE AS-1

3.1 General

The tables in Clause 3 provide on the right hand column the conclusions of the differences. An em-dash indicates that there are no impacts or requirements to change existing processes.

3.2 Decorum

IEEE 802	SAE AS-1	Harmonization/ Exception needed
Photography or recording by permission only (2020 SASB Op Manual 5.3.3.4)	Photography or recording is not permitted	—
Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (5.3.3.5)	?	—

3.3 Reflector and Web

IEEE 802	SAE AS-1	Harmonization/ Exception needed
To subscribe to the 802.1 reflector, send an email to: **ListServ@ieee.org** with the following in the body of the message (do not include "<>"): *subscribe* **stds-802-1-L** *<yourfirstname> <yourlastname>* ***end***	???	—
Send IEEE 802.1 >> reflector messages to: stds-802-1-L@listserv.ieee.org	???	—
WG web page URL for example: **http://**http://www.ieee802.org/1/	SAE AS-1A web page URL: https://www.sae.org/servlets/works/documentHome.do?comtID=TEAAS1A&inputPage=wIpS	Each organization to post working documents on each organization's website.

3.4   Private area

IEEE 802	SAE AS-1	Harmonization/ Exception needed
The private area is used to store the draft, and on an exception basis, other copyrighted material shared through a liaison. The password will be verbally announced during the meeting.	Document work area is available to all participants listed on the committee roster as a voting member or Liaison only.	Each organization to post working documents on each organization's website.

3.5   Ground rules

IEEE 802	SAE AS-1	Harmonization/ Exception needed

• Based upon IEEE 802.1 Rules
  – Foundation based upon Robert's Rules of Order
  – Anyone in the room may speak
  – Anyone in the room may vote
• **RESPECT**… give it, get it
• NO product pitches
• NO corporate pitches
• NO prices!!!
• NO restrictive notices
	Committee Code of Conduct During the Meeting (based on SAE Aerospace Council Organization and Operating Procedures)
	Following are general items for committee conduct:
	• No Commercialism – Stick to the Technical Issues and never endorse or belittle specific products.
	• Only one person speaking at any given time (presenter has the floor).
	• Attack the issue, not the person.
	• Be on time for the beginning of the meeting and in returning from breaks/lunch.
	• Set all electronic devices to silent mode
	• Respect all ideas and comments.
	• No silent scepticism -- be candid.
	• Do not dominate discussions.
	• Stay focused on the meeting.
	• Avoid unauthorized or "private" meetings. Discussions should be open and follow the agenda or other legitimate direction agreed upon by consensus of the committee.
	• Never participate in discussions of cost, pricing plans, pricing policies, product usage surveys, marketing plans or any related topics. Be aware of and follow ITAR and EAR rules and regulations governing export control.
	• Participate as individuals and not as agents or representatives of any organization.
	• Secure staff guidance as well as advice from legal counsel when necessary
	• Strive for an open atmosphere that promotes a free-flowing interchange of technical information.
		—

IEEE 802	SAE AS-1	Harmonization/ Exception needed
	• Follow the processes, rules, and guidelines of SAE International, the ESC Governance Policy, Aerospace Council Organization and Operating Guide, and the respective Technical Committee Charter/Guidelines. • Strive for high-quality technical reports that benefit all stakeholders	

3.6   Attendance

IEEE 802	SAE AS-1	Harmonization/ Exception needed
Attendance record must be done electronically using IMAT The 75% attendance is needed to maintain the voting rights. Additional rules apply about substituting a plenary by an interim etc.	Attendance secured from registrations to meeting. 5.10 Voting at Meetings (other than Technical Report ballots) Decisions are reached by a majority (at least 51%) of the Voting Members in attendance, providing a quorum (50%) is present 5.10.1 Proxy Voting No granting of Proxies or participation in any committee meeting decisions, actions or votes by proxy is allowed. Members unable to attend in person have the option of attending virtually or sending an alternate. A strict one person – one vote policy shall be followed. (based on SAE Aerospace Council Organization and Operating Procedures)	—

3.7   Participation in IEEE 802 Meetings

IEEE 802	SAE AS-1	Harmonization/ Exception needed
Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis (Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: http://www.ieee802.org/devdocs.shtml) • Participants in the IEEE standards development individual process shall act based on their qualifications and experience. (https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1)	Participation in any SAE AS-1 meeting is on an individual basis (Participate as individuals and not as agents or representatives of any organization).	—
• IEEE 802 Working Group membership is by individual; "Working Group members shall participate in the consensus process in a manner consistent with their professional expert opinion as individuals, and not as organizational representatives". (subclause 4.2.1 "Establishment", of the IEEE 802 LMSC Working Group Policies and Procedures)	Technical committees consist of technical experts from government, industry, regulatory agencies, and academia (Participate as individuals and not as agents or representatives of any organization).	—

IEEE 802	SAE AS-1	Harmonization/ Exception needed
• Participants have an obligation to act and vote as an individual and not under the direction of any other individual or group. A Participant's obligation to act and vote as an individual applies in all cases, regardless of any external commitments, agreements, contracts, or orders.	Participate as individuals and not as agents or representatives of any organization.	—
• Participants shall not direct the actions or votes of any other member of an IEEE 802 Working Group or retaliate against any other member for their actions or votes within IEEE 802 Working Group meetings, see https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1.3 and the IEEE 802 LMSC Working Group Policies and Procedures, subclause 3.4.1 "Chair", list item x. By participating in IEEE 802 meetings, you accept these requirements. If you do not agree to these policies then you shall not participate.	No granting of Proxies or participation in any committee meeting decisions, actions or votes by proxy is allowed. Members unable to attend in person have the option of attending virtually or sending an alternate. A strict one person – one vote policy shall be followed. (based on SAE Aerospace Council Organization and Operating Procedures)	—

3.8   IEEE and SAE high level structures

Table 1 – Differences in the IEEE and SAE high level structures

IEEE 802	SAE AS-1	Harmonization/ Exception needed
Voting is done by personal individuals that gained voting rights by participation in meetings.	Voting is done by individuals who are voting members of the AS-1A committee.	—

3.9   Important Bylaws and Rules

IEEE 802	SAE AS-1	Harmonization/ Exception needed
IEEE-SA Operations Manual http://standards.ieee.org/sa/sa-om.pdf	SAE Aerospace Council Organization and Operating Procedures https://www.sae.org/exdomains/standardsdev/global_resources/Aerospace_Council_Guidelines_9th_Revision_August_2020.pdf	—

IEEE 802	SAE AS-1	Harmonization/ Exception needed
IEEE-SA Standards Board Bylaws http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf IEEE-SA Standards Board Operations Manual http://standards.ieee.org/guides/opman/sb-om.pdf IEEE 802 LAN/MAN Standards Committee (LMSC) Policies and Procedures https://ieee.box.com/v/PandP-LMSC IEEE 802 LAN/MAN Standards Committee (LMSC) Operations Manual https://mentor.ieee.org/802-ec/dcn/17/ec-17-0090-24-0PNP-ieee-802-lmsc-operations-manual.pdf IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures https://ieee802.org/PNP/approved/IEEE_802_WG_PandP_v20.pdf	SAE Executive Standards Committee Governance Policy https://www.sae.org/exdomains/standardsdev/global_resources/ESC%20Governance%20Policy.pdf SAE International Standards Development Style Manual https://www.sae.org/exdomains/standardsdev/global_resources/January_2021_Standards_Development_Style_Manual.pdf	

3.10   Instructions for the WG Chair

IEEE 802	SAE AS-1	Harmonization/ Exception needed

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:
  – **Show slides #1 through #4 of this presentation**
  – **Advise the WG attendees that:**
    • The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
	SAE International strongly recommends that at the beginning of each committee meeting, the chair or a designee show and review:
	  - Anti-Trust Statement
	  - Patent Disclosure Statement
	  - Intellectual Property Policy
		—
		It does not harm the SAE people hearing the policy of IEEE.

IEEE 802	SAE AS-1	Harmonization/ Exception needed
• Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged; • There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development. – **Instruct the WG Secretary to record in the minutes of the relevant WG meeting:** • That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown; • That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard • Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom. – **The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.** – **It is recommended that the WG chair review the guidance in IEEE-SA Standards Board Operations Manual 6.3.5 and in FAQs 12 and 12a on inclusion of potential Essential Patent Claims by incorporation or by reference.** NOTE: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.	The secretary or designee shall record the minutes of each meeting. *At SAE International, patents are disclosed prior to approval of a project.*	
Other Guidelines for IEEE WG Meetings: – All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws. – Don't discuss the interpretation, validity, or essentiality of patents/patent claims. – Don't discuss specific license rates, terms, or conditions.	See ground rules above.	— It does not harm the SAE people hearing the policy of IEEE.

IEEE 802	SAE AS-1	Harmonization/ Exception needed
• Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings. • Technical considerations remain primary focus – Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets. – Don't discuss the status or substance of ongoing or threatened litigation. – Don't be silent if inappropriate topics are discussed … do formally object. • -- See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.		

3.11   Starting a new project

IEEE 802	SAE AS-1	Harmonization/ Exception needed
In IEEE 802.1 a new project can be started after presentations of a new work item in the TG and WG that results in sufficient WG interest (as indicated by a motion) to develop a PAR..	At SAE International, a new project can be started after presentations of a new work item to the AS-1 chair and at a AS-1 committee meeting has been approved (indicated by a motion and noted in the minutes of that meeting).	—
In IEEE 802.1 a new project is started after a WG motion to develop a PAR has passed. The development of the new project is typically handled by a TG, but a SG may be created on an exceptional basis.	At SAE International, a new project is started after approval by the AS-1 committee and assigned a sponsor. Development of the new project is handled by the designated AS-1 committee.	—
The 802 Executive committee (EC) occasionally will form the Study Group (SG) under the WG to create the PAR and CSD PAR & CSD approval is by the WG but is circulated beforehand to all 802 WGs for comments. Comments of the 802 WGs can come until Wednesday morning, so that the comment resolution can be integrated before the closing plenary of the WG on Thursday afternoon. The WG shall vote on the PAR and CSD. If one of these multiple motions fails, then rest in peace. The PAR shall also be approved by the 802 EC and confirmed by the NESCOM and approved by the IEEE SASB.	N/A	—

IEEE 802	SAE AS-1	Harmonization/ Exception needed
The PAR is assigned to a TG can start their drafting work on the next interim after the plenary.	N/A	—

3.12   Drafting a document

IEEE 802	SAE AS-1	Harmonization/ Exception needed
The TF works on the 1st draft D1.0. The TF ballot period is 4 weeks. The commenting phase can be repeated.	The AS-1A committee works on the draft. The ballot period is 28 days. The commenting phase can be repeated as many times as necessary until consensus is reached. Document then goes to Aerospace Council for a 28-day ballot. Any disapprovals need to be resolved and the document may need to be balloted to the committee again dependent on the nature of the Aerospace Council comments.	— The joint group starts to draft a joint document

3.13   Collecting fees to attend a joint meeting

IEEE 802	SAE AS-1	Harmonization/ Exception needed
It is usual in IEEE 802 interim and plenary meetings to collect money for paying the meeting venue, organizing WiFi access, refreshments, etc.	It is usual in SAE International face-to-face meetings to collect money for paying for meeting venue, audio visual and food & beverage if the meeting is hosted by SAE International. If the meeting is hosted by a company at the company facility, the company can decide if they need to collect registration fees to cover the cost of the meeting.	—

3.14   Terminology

IEEE 802	SAE AS-1	Harmonization/ Exception needed
Session: one or more days of coming together face to face to held serval meetings or adhocs. Meeting: coming together for a couple of hours during a day of a session. Some WGs strictly organize a day by dividing the day in 4 elements: am1, (coffee break), am2, (lunch break), pm1, (coffee	Session: one or more days of coming together face-to-face to hold document work sessions. Meetings: virtual meetings can be held for a couple of hours during a day for working sessions between face-to-face meetings if needed.	—

IEEE 802	SAE AS-1	Harmonization/ Exception needed
break), and pm2. Also evening meetings can be scheduled after a short for dinner.		

3.15 Documents repositories

IEEE 802	SAE AS-1	Harmonization/ Exception needed
The IEEE 802.1 web site allows to store documents in a public or a restricted member area.	The SAE International Standards Work website allows to store document in a restricted member area only. Working documents are not made public.	—

Annex A

List of Acronyms

Acronym	Meaning	Source
CSD	Criteria for standards development	IEEE 802 LAN/MAN Standards Committee (LMSC) Operations Manual, Clause 14
EC	Executive committee	IEEE 802
IEEE	Institute of Electrical and Electronics Engineers	IEEE, see www.IEEE.org
JWG	Joint working group	IEEE, SAE
LMSC	LAN/MAN Standards Committee	IEEE
NESCOM	New standards committee	IEEE, see IEEE-SA Standards Board: NesCom
NP	New work item proposal	SAE
PAR	Project authorization request	IEEE SA
RevCOM	Standards review committee	IEEE, see IEEE-SA Standards Board: RevCom
SG	Study Group	IEEE 802
TG	Task group	IEEE 802.1
TSN	Time sensitive networking	IEEE 802.1, see IEEE802.1 TSN web site
WG	Working group	IEEE

Annex B

History of this document

Revision	Author/Contributor	Status	Comment	Date
Rev1	Glenn Parsons / Ludwig Winkel	Early Draft	Initial version based on IEC/IEEE document	2021-04/21
Rev 2	Abdul Jabbar	Draft	Initial IEEE-SAE version	2021-11-03

Bibliography

[1]   IEEE/SAE Joint Development Procedure: 2021   <available   at   https://www.ieee802.org/1/files/private/dp-drafts/IEEE-SAE_Joint_Dev_Procedure-TSN_Aerospace_Profile.pdf>