



# American National Standards Committee C63<sup>®</sup>

## Electromagnetic Compatibility

### Subcommittee 3: International Standardization

Chair: Ross Carlton

Vice Chair: Ernesto Mendoza

Secretary: Jerry Ramie

Webinar

March 2, 2022; 2:00 PM – 4:00 PM - EST

### Approved Minutes

1. **Call to Order: Chair** - The meeting was called to order at 2:02PM-EST
  - 1.1 **Announcements: Chair's remarks** – We will review a flow chart and continue to review the comparison reports and the status of the comparison action items.
  - 1.2 **Meeting logistics announcements: Host** (N/A)
  - 1.3 **Introductions: Secretary – roll call** (attending members with their affiliations and guests are recorded separately below) (note **absences**, **excused absences** and **errors**)
  - 1.4 **Present membership: Report any roster errors to the ASC-C63<sup>®</sup> Secretary**

### Subcommittee 3 Membership Roster

Name	Role within Subcommittee 3	Affiliation
<a href="#">Carlton, Ross</a>	Chair Subcommittee 3	Gibbs & Cox (EMC Society Expert)
<a href="#">Coder, Jason</a>	Chair Subcommittee 7	NIST
<a href="#">DeLisi, Bob</a>	Chair Subcommittee 4	UL LLC
<a href="#">Dilay, Chris</a>	Member	Naval Info. Warfare Center Pacific
<a href="#">Griffin, Andy</a>	Member US CISPR/H Technical Advisor	CISCO Systems
<a href="#">Hare, Ed</a>	Chair Subcommittee 5	ARRL
<a href="#">Hoolihan, Dan</a>	Chair ANSC-C63 <sup>®</sup>	Hoolihan EMC Consulting
<a href="#">Klinger, Jeff</a>	Member	Cetecom, Inc.
<a href="#">Kramer, Doug</a>	Member	ETS-Lindgren
<a href="#">Long, Randy</a>	Chair Subcommittee 6	ANAB (ANSI National Accreditation Board)
<a href="#">Mendoza, Ernesto</a>	Vice Chair Subcommittee 3 US CISPR Technical Advisor US CISPR/F Technical Advisor	Signify
<a href="#">Popovici, Horia</a>	Member	Innovation, Science and Economic Development Canada
<a href="#">Potts, Nate</a>	Member	Keysight Technologies
<a href="#">Shellman, Marcus</a>	Chair Subcommittee 2	DOD – Joint Spectrum Center (JSC)
Non-Voting Members		
<a href="#">Abbondante, Nick</a>	Liaison Member US CISPR/A Technical Advisor	Intertek
<a href="#">Arnett, Dave</a>	Liaison Member US CISPR/I Technical Advisor	Garmin
<a href="#">Cibulka, Michael</a>	Liaison Member TC77 & SC77B Technical Advisor	Rockwell Automation
<a href="#">Fanning, Craig</a>	Liaison Member US CISPR/D Technical Advisor	Elite Electronic Engineering
<a href="#">Hofmann, H.R. (Bob)</a>	Emeritus Member	Hofmann EMC Engineering
<a href="#">Jones, Steve</a>	Liaison Member	FCC Laboratory
<a href="#">Mahn, Terry</a>	Liaison Member	Fish and Richardson

	<b>US CISPR/B Technical Advisor</b>	
<a href="#">Pettit, Ghery</a>	Liaison Member CISPR/I Chair	Pettit EMC Consulting, LLC

**Guests and Observers:** (non-voting) Jerry Ramie,

**1.5 Quorum: (50% of roster) constitutes a quorum.** (rounding up) (14 roster members / 2 = 7 >> 7 (therefore **7 people** are required for a quorum) **Was quorum achieved? (Yes)** If not, any actions taken are subject to confirmation by electronic ballot or at a future meeting. (Quorum is not required for Working Group meetings)

**2. Approval of the Agenda: Secretary** - The modified [Agenda](#) was approved by acclamation.

**2.1 Approval of the previous Minutes - 20211215** The previous Minutes were reviewed in a line-by-line manner and [approved](#) by acclamation.

**2.2 Review of the [patent slides](#)** – The patent slides were reviewed and all agreed to abide by the policies shown.

**3. Review of [Subcommittee Membership](#), - Report any errors to the Secretary**

**3.1 Review of Membership Guidelines**

**Subcommittees:**

For an individual to remain a voting member of a Subcommittee, active participation in Subcommittee meetings and regular responses to Subcommittee email votes is required. Should a member fail to attend at least one of three consecutive scheduled meetings (in person or remotely via web conference (when used)) or respond to at least one of every two consecutive Subcommittee email votes, their membership in that Subcommittee may be at risk.

**Note:** Abstentions shall be treated the same as a “yes” or “no” vote regarding the requirement to respond to email votes.

**Member Attendance Log: Any errors in the log?**

2/14/19	5/2/19	8/28/19	11/20/19	2/13/20	5/28/20	9/9/20	12/3/20	3/3/21	5/26/21	8/25/21	12/15/21	Full Name
			x	x	x	x	x	x	x	x	x	Coder, Jason
	x		x	x	x	x		x	x	x	x	DeLisi, Bob
	x		x			x			x	a	x	Dilay, Chris
	x			x	x		x		x	x		Griffin, Andy
	x		x				x	x	x			Hare, Ed
	x		x		x	x	x	x	x	x	x	Hoolihan, Dan
												Klinger, Jeff
x	x				x			x	x		x	Kramer, Doug
	x		x		x	x	x	x		x		Long, Randy
x		x		x	x	x	x	x	x	a	x	Mendoza, Ernesto
				x	x	x	x		x	a	x	Popovici, Horia
x	x	x	x	x			x	x	x	x	x	Potts, Nate
	x	x	x		x		a	x		x		Shellman, M.
							x	x	x	x	x	Abbondante, Nick
x											x	Arnett, Dave
x	x			a	x	x	x	x	x	x		Cibulka, Michael
x	x			x	x				x	x	x	Fanning, Craig
x		x	x				x		x		x	Hofmann, H.R.
	x		x	x					x	x		Jones, Steve
												Mahn, Terry
						x	x	x	x		a	Pettit, Ghery
x	x	x	x	x	x	x	x	x	x	x	x	Ramie, Jerry

**Any members at risk?** None are at risk.

**3.2 Consideration of new members? [Application for C63® Subcommittee Membership](#)**

**4. Status of harmonization of all C63 Standards with international equivalents - Chair**

C63 documents listed in the first column are to be compared with the standards indicated in the far-right column. The assigned comparisons are to show where harmonization may or may not be possible and what action should be taken. All this will be in the reporting form for each standard shown.

**Table 1: Comparisons of ANSC-C63® Documents and International Documents**

C63® Document	SC #	Subject	International Document (Reviewer Actions)
C63.2	SC1	Test Instrumentation	CISPR 16-1-1 <a href="#">RA-1</a> Draft C63.2 to CISPR 16-1-1 <a href="#">RA-30</a>
C63.4	SC1	Measurements	CISPR 16-2-X; <a href="#">RA-2</a> CISPR 16-1-4; <a href="#">RA-3</a> CISPR 32; <a href="#">RA-4</a>
C63.5	SC1	Antenna Calibration	CISPR 16-1-6; <a href="#">RA-5</a> SAE ARP 958; <a href="#">RA-6A</a> <a href="#">RA-6B</a> CISPR 16-1-4; <a href="#">RA-7</a>
C63.9	SC5	Multimedia Equipment Immunity	IEC 61000-4-39; <a href="#">RA-8</a>
C63.10	SC4	Unlicensed Transmitters	Too many ETSI standards for comparison.
C63.15	SC5	Immunity	IEC 61000-4-x; <a href="#">RA-9</a> CISPR 35; <a href="#">RA-10</a>
C63.16	SC5	ESD	IEC 61000-4-2; <a href="#">RA-11</a> ISO 10605; <a href="#">RA-12</a> SAE J1113-xx; <a href="#">RA-13</a>
C63.23	SC1	Uncertainty	CISPR 16-4-2; <a href="#">RA-14</a> CISPR 16-1-4; <a href="#">RA-15</a>
C63.24 draft	SC5	Generic In Situ Meas.	IEEE 473 ; <a href="#">RA-16</a>
C63.25.1	SC1	Test Site Validation, 1 GHz to 18 GHz	CISPR 16-1-4; <a href="#">RA-17B</a>
C63.25.2	SC1	Test Site Validation, 30 MHz to 1 GHz	CISPR 16-1-4; <a href="#">RA-17A</a>
C63.25.3	SC1	Test Site Validation, 18 GHz to 40 GHz	<a href="#">RA-17C</a>
C63.26	SC4	Licensed Transmitters	ETSI wireless requirements mmWave possible comparison. <a href="#">RA-18</a>
C63.27	SC7	Co-existence	IEC 62657-2; <a href="#">RA-19</a>
C63.28 draft	SC2	Best Practices	No equivalent; <a href="#">RA-20</a>
C63.29 draft	SC4	Lighting products	CISPR 15; <a href="#">RA-21</a> IEC 61827;
C63.30 draft	SC4	Wireless Power Transfer Products	CISPR 11; <a href="#">RA-22</a> CISPR 14-1; <a href="#">RA-23</a> CISPR 32; <a href="#">RA-24</a> CISPR 12; <a href="#">RA-25</a>
C63.31 draft	SC4	ISM equipment (FCC MP-5)	CISPR 11; <a href="#">RA-26</a> CISPR 14-1; <a href="#">RA-27</a> CISPR/B/672/DC (4/14/17); <a href="#">RA-28</a> CISPR/B/700/DC (2/2/18); <a href="#">RA-29</a>

**ASC-C63 Standards numbering:** We discontinued C63.8 for calibration, which became C63.34. C63.32 was moved to C63.33, C63.32 & C63.35 are now reserved.

We reviewed RA-30 and discussed preamplifier user cautions. Ross thought these activities could be carried out by the relevant working groups.

**4.1 Status of reviewers and reports completed** - This part of the agenda will be to identify the persons named for each RA and to update Table 2 for the minutes. For those named, we will review what is in their report using the [comparison report template](#)

Access to ANSC-C63<sup>®</sup> documents available here: <https://app.box.com/s/tv8akgqrjncb3qwbbkdyobk6mgpiuwci> (read-only) **Table 2** will be used to measure progress on receiving the comparison reports. The completed consolidated **RA table** will be sent to SC2 for use on the [C63.28 \(draft\)](#). New Actions in **yellow highlight**.

**Table 2: Reviewer Actions from 3/3/21 Meeting of SC3**

RA #	Task	Responsible party	Due Date	Status
RA-1	<a href="#">Compare C63.2 to CISPR 16-1-1</a>	Ross-Carlton Jens Medler	5/26/21	Closed <a href="#">Medler PPT</a>
RA-2	<a href="#">Compare C63.4 to CISPR 16-2-X</a>	Horia Popovici	5/26/21	Closed new submittal
RA-3	<a href="#">Compare C63.4 to CISPR 16-1-4</a>	Horia Popovici	5/26/21	Closed new submittal
RA-4	<a href="#">Compare C63.4 to CISPR 32</a>	Nate Potts	5/26/21	Closed
RA-5	<a href="#">Compare C63.5 to CISPR 16-1-6</a>	Nate Potts	5/26/21	Closed
RA-6	<a href="#">Compare C63.5 to SAE ARP 958 Rev D (RDL)</a> <a href="#">Compare C63.5 to SAE ARP 958 Rev D (DK)</a>	R. Lombardi Doug Kramer	5/26/21	Closed
RA-7	<a href="#">Compare C63.5 to CISPR 16-1-4</a>	Doug Kramer	5/26/21	Closed
RA-8	Compare <a href="#">C63.9</a> to IEC 61000-4-39 & IEC 61000-4-3	Jeff Evans	5/26/21	Closed Review the next draft of C63.9
RA-9	<a href="#">Compare C63.15 to IEC 61000-4-x</a>	Don Heirman	5/26/21	Closed Subject to multiple people involved based on C63.15
RA-10	<a href="#">Compare C63.15 to CISPR 35</a>	Ghery Pettit	5/26/21	Closed received submission
RA-11	<a href="#">Compare C63.16 to IEC 61000-4-2</a>	Mike Cibulka	5/26/21	Closed
RA-12	<a href="#">Compare C63.16 to ISO 10605 (Automotive ESD)</a>	Rich Worley R. Lombardi	5/26/21	Closed
RA-13	<a href="#">Compare C63.16 to SAE J1113-xx</a>	R. Lombardi	5/26/21	Closed
RA-14	<a href="#">Compare C63.23 to CISPR 16-4-2</a> <i>(Record that if all the measurement uncertainty terms in the test procedure are not in CISPR 16-4-2, no MU can be calculated and hence MU does not apply, i.e. Ucispr cannot be fully computed to come up with the MU)</i>	Bob DeLisi	5/26/21	Closed Sent 2/2018
RA-15	<del>Compare C63.5 to CISPR 16-1-6</del> Compare <a href="#">C63.23 to CISPR 16-1-4</a>	Nate Potts Doug Kramer	5/26/21	New comparison
RA-16	<a href="#">Compare C63.24 draft to IEEE 473</a>	Don Heirman Chad Kiger	5/26/21	Closed <a href="#">C63.24 2019 draft</a> <a href="#">C63.24 2020 w/comment resolution</a>
RA-17A	Compare <a href="#">C63.25 (C63.25.2) to CISPR 16-1-4</a>	Doug Kramer	5/26/21	Open New comparison
RA-17B	Compare <a href="#">C63.25.1 to CISPR 16-1-</a>	Doug Kramer	5/26/21	Open New comparison
RA-17C	Compare <a href="#">C63.25.3 to CISPR 16-1-</a>	Doug Kramer	5/26/21	Open New comparison

RA-18	<a href="#">Compare C63.26 to ETSI wireless requirements mmWave possible</a>	Bob DeLisi	5/26/21	Closed
RA-19	<a href="#">Compare C63.27 (2017) to IEC 62657-2</a>	Jason Coder	5/26/21	Closed
RA-20	<a href="#">Compare C63.28 draft to "no equivalent"</a>	Marcus Shellman	5/26/21	Closed No equivalents found
RA-22	Compare C63.30 draft to Draft amendments to CISPR 11	Travis Thul Horia & Bob	5/26/21	Open
RA-23	Compare C63.30 draft to CISPR 14-1	Travis Thul Horia & Bob	5/26/21	Open
RA-24	Compare C63.30 draft to CISPR 32	Travis Thul Horia & Bob	5/26/21	Open
RA-25	Compare C63.30 draft to CISPR 12	Travis Thul Horia & Bob	5/26/21	Open
RA-30	<a href="#">Compare draft C63.2 vs. CISPR 16-1-1</a>	Jens Medler	5/26/21	Closed Provided 1/27/22
<b>Reports below are waiting for publication of the cited C63 standards before comparisons can be made</b>				
RA-21	<a href="#">Compare C63.29 draft to CISPR 15 Ed. 8; Compare C63.29 draft to CISPR 15 Ed. 9 Runway lighting under IEC 61827</a>	Ernesto Mendoza	5/26/21	Open compare to Ed. 9 waiting for C63.29 publication
RA-26	Compare C63.31 draft to CISPR 11	Bob DeLisi Abbondante	5/26/21	Open Wait until new version comes out
RA-27	Compare C63.31 draft to CISPR 14-1 induction cooking	Bob DeLisi Abbondante	5/26/21	Open Wait until new version comes out
RA-28	Compare C63.31 draft to <a href="#">CISPR/B/672/DC (4/14/17)</a>	Bob DeLisi Abbondante	5/26/21	Open Wait until new version comes out
RA-29	Compare C63.31 draft to <a href="#">CISPR/B/700/DC (2/2/18)</a>	Bob DeLisi Abbondante	5/26/21	Open Wait until new version comes out

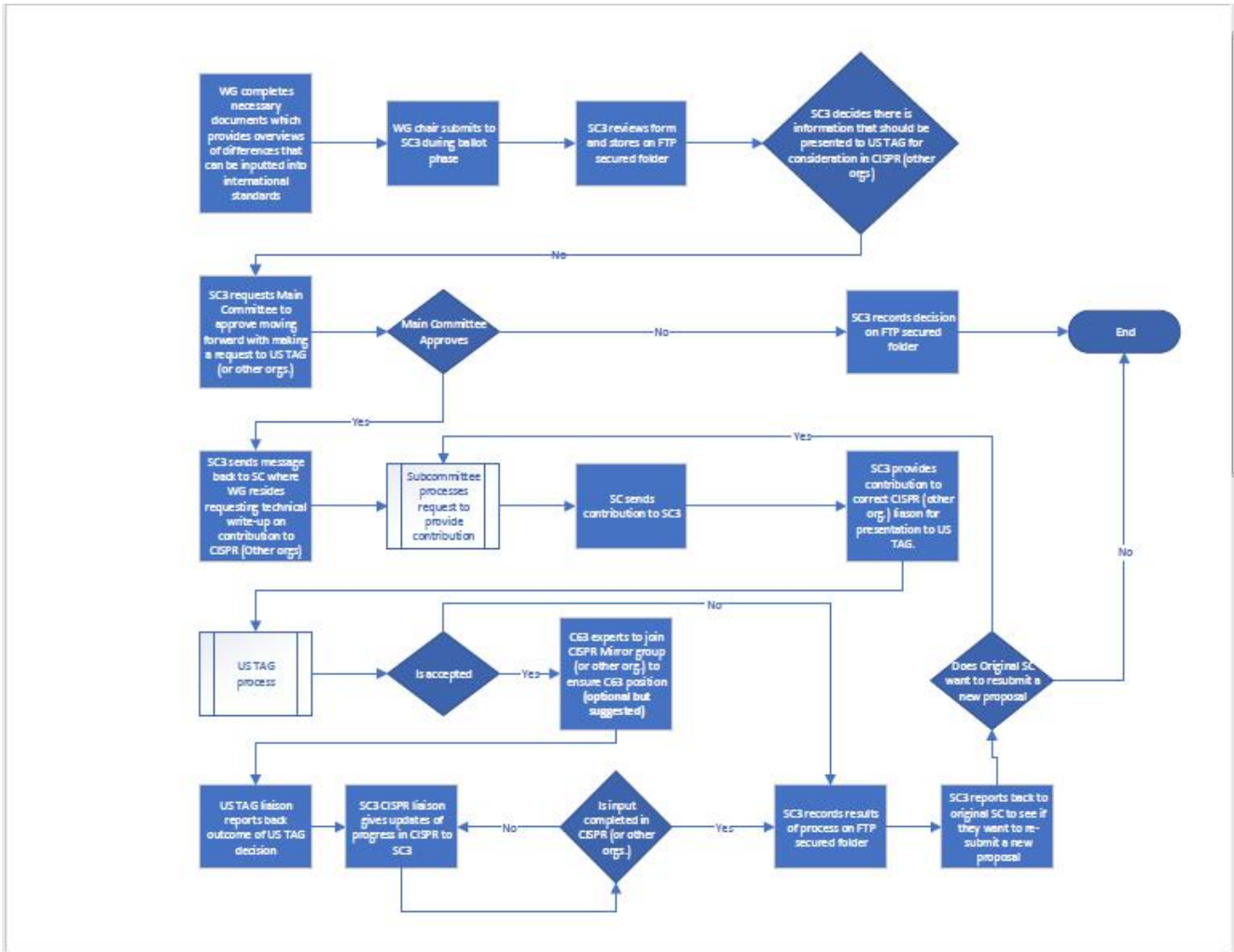
## 5 Other Old Business: Chair

**5.1 Written reports** - Written reports of this Subcommittee meeting shall be presented by the Subcommittee Chair at the Main Committee meeting. These reports shall be made using either the [C63 PowerPoint template](#) or the [C63 PowerPoint template wide](#). Prior to the Main Committee meeting, the [SC report](#) and [approved previous SC meeting minutes](#) shall be provided to the projectionist for showing on the screen at the Main meeting. The Presentation and any written report shall also be sent by the Subcommittee Chair to the ASC-C63® [Newsletter editor](#)

**5.2 Coordination with SC2 for definitions** - Before any Working Group draft can be submitted to the Subcommittee for approval, the document must be provided to the SC2 Chair for evaluation and coordination of the definitions used. Since there is no new activity on C63.12, there are no definitions to forward to SC2 as no other standard is being developed in this Subcommittee.

**5.3 SC3 Process Revision - DeLisi** - Bob suggested we make a [flowchart](#) for how our SC3 process works. (form a Task Group) How does work come in? How is it processed? How is the output routed? Bob volunteered to run this task group. Ernesto assisted. Nick, Jason Coder, Ross attended. Bob hosted the webinars.

Ross described the outcome of the webinars organized by Bob and provided the resulting process flowchart to the members. This [flowchart](#) is specifically for Task 4, which relates to publishing C63 content in the standards of other SDOs, such as the IEC. Ross asked the membership to review the [flowchart](#) in advance of detailed discussion at [this meeting](#). The desire is to create a flowchart and supporting guidance for each Duty of SC2.



The chart was reviewed by the Subcommittee. It shows the movement of C63 content into other SDOs. **AI-146:** SC3 Members to review the [flowchart](#) and make recommendations for its improvement.

## 6. New Business: Chair -

**6.1 No new C63.12 PINS: C63.12 will be allowed to expire in 2025.** Gibbs & Cox is using C63.12 for setting limits for non-combat military ships:

Individual shipboard electrical and electronic equipment installations shall meet the requirements of ABS 4-9-9/Table II. Equipment that emits or is susceptible to electromagnetic energy shall be located to ensure Electromagnetic compatibility (EMC) and systems to function acceptably in their electromagnetic environment, by limiting the unintentional generation, propagation and reception of electromagnetic energy which may cause unwanted effects such as electromagnetic interference (EMI) or even physical damage in operational equipment, and avoid HERO, HERP and HERF. Electrical and electronic systems' performance shall not be degraded in response to spurious EMI generated by radiating sources, including high frequency (HF) transmitters, or transients on power lines. Weather exposed equipment containing solid-state devices shall meet the "Limits Severe Environment" levels specified in ANSI C63.12. Pilot House and chart room equipment containing solid-state devices shall meet the "Limits Industrial Environment" levels specified in ANSI C63.12.

There was discussion of moving responsibility for C63.12 over to SC2. This should be discussed at the Main Committee meeting in Texas. The Main Committee needs to know what SC3 wants to do with C63.12. We need

a motion and a second with a vote to recommend the movement to SC2. Ghery P. moved to recommend the transfer of C63.12 to SC2, Dan H. seconded the motion. Discussion ensued. Any opposed? No discussion. Any objections? (none) The motion carried by acclamation. **AI-147:** Ross to write a note to SC2 Chair and copy Main Committee Chair / Secretary to recommend the movement of C63.12 to SC2.

**6.2 C63.16 began work on 8/26/21:** We started a Humidity Task Group to write an Annex.

**6.3 SC3 Scope, Duties and Tasks** – Ross walked through a [presentation](#) for discussing potential changes to the SC3 Scope, Duties, and Tasks. The current Scope, Duties and Tasks repeat the same information without providing additional clarity. Options for a revised Scope and Duties were discussed. The Tasks may be removed since they seem to be covered by Duties. Only a Scope and Duties are required by policy. Ross asked the membership to consider their recommendations for a new Scope and Duties for consideration at [this meeting](#). A recommendation needs to be complete in advance of the next Main Committee meeting planned for the May 2022 timeframe. **AI-148:** All members to review the [presentation](#) and comment at the next meeting.

**7. C63.org website use and updates: Secretary** - We normally post documents to the [SC3 protected area](#). If any SC or WG needs help with this posting, a Technical Secretary is available to assist.

**8. Review of the Action Items: Secretary**

**8.1 Review of Action Items from previous meeting:**

**Consolidated Action Items from 12/15/21 Meeting of SC3**

AI #	Task	Responsible party	Due Date	Status
AI-143:	Jerry to add Jens Medler, Travis Thul and Jeff Evans to SC3 invitation list.	Jerry Ramie	3/2/22	<b>CLOSED</b> added 12/15
AI-144:	Jerry to send comparison form to Jens, Bob, Horia & Travis	Jerry Ramie	3/2/22	<b>CLOSED</b> sent 12/15
AI-145:	Jerry to change the title header of the two PPT templates	Jerry Ramie Jason Coder	3/2/22	<b>CLOSED</b> posted 12/15

**8.2 Review of Action Items from this meeting—Secretary** - The **Action Items** from this meeting were reviewed and understood by those involved.

**9. Next meeting: Chair – May 16-20, 2022 @ ETS-Lindgren, Cedar Park, TX** - hybrid meeting; comments? How is attendance? About 1/3 agreed to attend. Main Committee poll coming out in mid-March. Ross suggested a small task group to discuss the Scope & Duties for one hour. Volunteers? Ernesto, Bob, Jerry, Chris, Marcus & Ross for **March 23 @ 3:00PM EST for 1 hour** (meeting set 3/2)

**10. Closing remarks and Adjournment: Chair** - The meeting was adjourned at 3:43 PM-EST.

\*\*\*\*\* End of Meeting \*\*\*\*\*

**Consolidated Action Items from 3/2/21 Meeting of SC3**

AI #	Task	Responsible party	Due Date	Status
AI-146:	SC3 Members to review the <a href="#">flowchart</a> and make recommendations for its improvement.	All SC3 Members	Next meeting	<b>Open</b>
AI-147:	Ross to write a note to SC2 Chair and copy Main Committee Chair / Secretary to recommend the movement of C63.12 to SC2	Ross Carlton	Next meeting	<b>Open</b>
AI-148:	All members to review the <a href="#">presentation</a> and comment at the next meeting.	All SC3 Members	Next meeting	<b>Open</b>