**Minutes V1.0**

**302nd CEOS SECRETARIAT MEETING**

Thursday 15 December 2022

Chaired by GISTDA

**Participants**

**CEO:** Marie-Claire Greening

**CSA:** Marie Josée Bourassa

**ESA SIT Chair Team:** Ivan Petiteville, Stephen Ward

**GISTDA:** Pakorn Apaphant, Nuttavipa Thanthawewut, Tanita Suepa,

Atipat Wattanuntachai, Warinthorn Kiadtikornthaweeyot, Raweewan Nutpramoon, Sitthisak Moukomla, Matt Steventon, Libby Rose, Riza Singh

**JAXA:** Osamu Ochiai, Yuko Nakamura, Yukio Haruyama, Satoshi Uenuma

**NASA:** Christine Bognar

**NOAA:** Charles Wooldridge, Katy Matthews

**SEO:** Dave Borges, Brian Killough

**WGCV:**  Philippe Goryl

**WGCapD:** Jorge Del Rio Vera

**WGClimate:** Jeff Privette

**WGDisasters:** Laura Frulla

**WGISS:** Makoto Natsuisaka

1. **Welcome and Introductions, Review of Agenda**

Pakorn Apaphant (GISTDA, CEOS Chair) welcomed everyone to SEC-302. This is the first meeting hosted by GISTDA as the CEOS Chair. He apologised that he will not be able to attend the whole meeting due to a schedule overlap.

1. **Action Review & Confirmation of SEC Schedule**

Matthew Steventon (GISTDA, CEOS Chair Team) reviewed the actions from SEC-301.

* 301-01: *GISTDA CEOS Chair Team to work with the CEOS Executive Officer to draft a letter to CEOS Members and Associates to encourage increased engagement of their organisation in CEOS activities and meetings.*
	+ Marie-Claire Greening (CEO) reported that a letter from the CEOS Chair has been drafted and will be circulated to SEC for comment shortly.
	+ The letter will be sent out to CEOS Principals from the CEOS Chair, with the goal to re-engage members who haven’t been active in a while.
	+ The action itself can be closed, however the letter needs to be finalised and sent out.
	+ Pakorn Apaphant (GISTDA, CEOS Chair) noted the Chair plans to send the letter in the new year. The letter will invite agencies for an opportunity for a 1-on-1 call with the CEOS Chair.
	+ GISTDA will focus on engaging CEOS members within the Asia-Pacific region, and other SEC members are kindly asked to do the same for their respective regions.
	+ This also covers Action 301-02. Both 301-01 and 301-02 were closed.
* 301-03: *CEOS Executive Officer to draft a CEOS Statement to UN-COPUOS 2023.*
	+ CEOS has been an observer of UN-COPUOS for several years, which is a valuable forum to spread the message of what CEOS is doing.
	+ It is proposed to focus on SDGs in this year’s statement.
	+ The CEO is working with Jorge Del Rio Vera (UNOOSA, WGCapD Chair) on this matter.
	+ There is scope to prepare a video recording of the statement, rather than having the CEOS Chair travel to Vienna. Pakorn agreed with this plan.
	+ This action is still in progress.
* 301-06: *CEOS Executive Officer to work with Laurent Durieux (GEO Secretariat) and CEOS leadership to find a suitable date for the CEOS-GEO Coordination Meeting. The February timeframe is suggested.*
	+ Marie-Claire Greening (CEO) noted that this is proving difficult. The GEO Secretariat has only given a few dates, which don’t work for the required CEOS leadership (CEOS Chair, SIT Chair, CEO and SEO as a minimum).
	+ Some alternative dates have been proposed by CEOS, and the matter is in the hands of the GEO Secretariat now.
	+ This action is still in progress.
* 301-05: *CEOS Ecosystem Extent Task Team Leads to inform Laurent Durieux (GEO Secretariat) of the expected CEOS delegation at the 2022 Montreal Biodiversity Conference (COP 15, 7-19 December 2022) to aid coordination.*
	+ Matt Steventon (GISTDA, CEOS Chair Team) noted that this action will be closed after the meeting, as the conference is already underway.
	+ Marie-Josée Bourassa (CSA) noted ESA was present last week, as was Yana Gevorgyan (GEO Secretariat Director). There are about 14,000 people in Montreal for COP-15, however negotiations are proving difficult.
	+ Christine Bognar (NASA) noted via chat thatfrom the CEOS Ecosystem Extent Task Team, COP 15 has the participation of Marie-Josée of CSA, Marc Paganini of ESA, and Amanda Koltz of NASA.

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| **302-01** | GISTDA CEOS Chair Team to include a report on the outcomes of relevance to CEOS from the Montreal Biodiversity Conference (COP 15, 7-19 December 2022) on the SEC-303 agenda and invite CSA/Ecosystem Extent Task Team Leads to report. | **SEC-303** |

* 301-04: *CEOS SEC to review the proposed Secretariat schedule for the coming year and raise any conflicts with the CEOS Chair Team. The schedule will be put for formal endorsement at SEC-302 (December 15, 2022).*
	+ The schedule presented initially at SEC-301 is below, with the suggested addition of another meeting on September 28, filling a gap left by adjustments made to the SIT Technical Workshop date. The schedule was presented for discussion and endorsement.

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| SEC-302: December 15, 2022SEC-303: January 19, 2023SEC-304: February 16, 2023SEC-305: March 2, 2023SEC-306: March 28, 2023 (SIT-38)SEC-307: April 20, 2023SEC-308: May 18, 2023 | SEC-309: June 15, 2023SEC-310: July 20, 2023SEC-311: September 7, 2023**SEC-312: September 28, 2023**SEC-313: October 17, 2023 (SIT TW)SEC-314: November 13, 2023 (CEOS Plenary) |

* + No issues were raised with the schedule.

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| **Decision 302-01** | The proposed schedule for CEOS Secretariat meetings for 2023 was endorsed. |

1. **CEOS Chair Report**

The preliminary actions from CEOS Plenary 2022 were reviewed, with a focus on those due before the end of the calendar year:

* Regarding CEOS-36-01, Ivan Petiteville (ESA, SIT Chair Team) noted that discussions are ongoing for European agency contributions to the EUMETSAT and ESA CEO plan, and are progressing well. Pakorn Apaphant (GISTDA, CEOS Chair) offered the support of the CEOS Chair Team to progress the matter, if helpful.
* CEOS-36-05, regarding the AC-VC white paper implementation roadmap, now has a due date: a draft is expected by SIT Technical Workshop 2023, with the final version to be presented at CEOS Plenary 2023.
* On the Ecosystem Extent Task Team (EETT) and Action CEOS-36-13, Matt Steventon (GISTDA, CEOS Chair Team) noted the email that was sent by Gary Geller (NASA, EETT Lead) to the CEOS community. Christine Bognar (NASA) confirmed that the EETT has identified additional biodiversity experts from DLR and JAXA.
* On the New Space Task Team (NSTT) and Actions CEOS-36-07 and CEOS-36-08, CEOS should expect an email soon from the SIT Chair Team.
* Matt Steventon (GISTDA, CEOS Chair Team) noted that the draft CEOS Plenary minutes will be sent in the next few days, with a review deadline early in the new year.

Pakorn Apaphant (GISTDA, CEOS Chair) reported:

Chair Priorities

* The CEOS Chair Team is planning a workshop with SilvaCarbon in Thailand from February 23 to March 2, 2023, with a focus on the uptake of AFOLU datasets for national forest inventories, and mangrove applications.
* The workshop will involve around 50 participants from South-East Asian countries.
* The workshop will focus on knowledge transfer and capacity building of carbon stock inventories, and how to utilise EO to support. GISTDA will facilitate the workshop, while SilvaCarbon will prepare the speakers and equipment.
* Osamu Ochiai (JAXA) noted his interest in participating. However, an official announcement has not been distributed. Osamu asked when the CEOS community could expect the announcement.
* Pakorn confirmed that the agenda will be finalised this week and formal invitations will be sent out before the Christmas holidays. Anyone interested in this workshop is welcome to attend.
* On the New Space priority, GISTDA plans to attend a regional workshop in Singapore, a conference called GSTC, where 1000 start-ups in space technology are expected to attend. GISTDA will attend and report back.
* GISTDA is also hoping to host a regional workshop in Thailand and will update CEOS SEC when more details are available.
1. **SIT Chair Report**

Ivan Petiteville (ESA, SIT Chair Team) reported:

* The SIT Chair has noticed the short timeframe between SIT Technical Workshop 2023 and Plenary (only three weeks). The SIT Chair team as a matter of principle would like to see greater differentiation between the various key meetings on the CEOS calendar. To some extent, the scope of meetings is captured in the Governance and Processes document Table 4-1, however this leaves scope for interpretation by CEOS leadership, SIT Chair and CEOS Chair:
	+ SEC meetings: With deference to the CEOS SEC Terms of Reference, ideally, these should be more of a forum for discussion to progress issues between major meetings. There has been an increased focus on reporting, which should ideally be deferred to the written reports, with the verbal reports focusing on key decision points and locking in progress month-to-month to support decision making at major meetings.
	+ SIT-38 (28-30 March 2023, ESRIN): With reference to the SIT Chair Terms of Reference, this is a Principal-level meeting focused on hearing, discussing, and agreeing requests for implementation resources. The SIT Chair team intends to follow the successful model employed in our return to face-to-face / hybrid meetings at the Technical Workshop 2022 and structure the agenda time around 2-3 larger in-depth blocks focused on progressing the main issues. This meeting may include a Plenary session for matters that the CEOS Chair deems necessary for consideration, including the endorsement by CEOS of documents.
	+ SIT Technical Workshop (17-19 October 2023, ESRIN): To make best use of expert and Principal time, the SIT Chair would like to observe closely the Governance and Processes guidance that attendance be by, *“Mostly technical experts and scientists”*, with *“Few CEOS Principals (not required, depending on agenda/issues)”*. Ideally where the SIT meeting’s original purpose was for making resource decisions, this Technical Workshop should be focused on problem solving.
	+ CEOS Plenary 2023 (13-15 November 2023, Thailand): Following closely from the Technical Workshop, there will be little time to progress and prepare issues between the two meetings. This calls into focus the need to ensure CEOS SEC is used effectively as a decision-making forum during the year, between the close of SIT-38 and Technical Workshop (from April to mid-October). The expectation for Plenary is of course the broadest possible Principal-level participation, and decision making on all matters that require CEOS attention.

Carbon & Biomass

* The AFOLU Roadmap team has revived their progress and are aiming for a June version of the Roadmap. Assignments and resources are being worked through by the co-leads now.
* Further user stories for the GST Portal ([ceos.org/gst](http://ceos.org/gst)) are welcome if CEOS Agencies have good examples they would like to contribute.

CEOS-ARD

* In December 2022, the OGC ARD SWG Charter was distributed to OGC members for voting, and the ISO ARD NWIP was sent to the ISO TC 211 Secretariat by OGC for a one-month informal comment period. It is hoped that OGC members will approve the SWG charter in January, with the first OGC ARD SWG meeting then taking place during the week of the 125th OGC Member Meeting. The ARD SWG meeting is currently scheduled for the afternoon of Tuesday, February 21, 2023, at ESA ESRIN in Frascati, Italy. This is a great opportunity for CEOS engagement from the outset of the ARD SWG, and the SIT Chair Team is working to ensure strong attendance from LSI-VC and CEOS-ARD Oversight Group members.
* The Aquatic Reflectance (AR) CEOS-ARD Product Family Specification (PFS) was originally designed to exclude oceans explicitly, however, there have been multiple discussions regarding extending the specification to also cover the oceans. An IOCCG meeting is being planned for February 2023 and the CEOS OCR-VC will ensure this topic is on the agenda. The CEOS-ARD Oversight Group will prepare a one-pager for the IOCCG meeting, to provide context and background information. The CEOS-ARD Oversight Group has served its purpose well – connecting several communities (CEOS-ARD, LSI-VC, OCR-VC, CSIRO Aquawatch and IOCCG) to progress this expansion ‘beyond land’ in a coordinated manner.

CEOS EO Handbook

* The SIT Chair Team is planning a CEOS EO Handbook to be released in time for the first Global Stocktake events at the end of 2023 and will consult with SEC and with the relevant CEOS working teams including WGClimate, the GHG Task Team, the AFOLU Roadmap Team and others. The goal of the handbook is to communicate a plain language guide to the importance of satellite EO for many aspects of the Paris Climate Agreement, including the GST. There will be more news early in 2023.

Upcoming Meetings

* The SIT Chair team will be planning a round of ‘VC Chats’ to take place in February 2023, ahead of the SIT-38 meeting. The team will reach out to VC Leads to schedule calls shortly.
* SIT-38 will be held at ESA ESRIN (Frascati, Italy) in the week of 27 March 2023. 28 March will be assigned to side meetings and 29 and 30 March will be the main days for SIT-38.
* The SIT Technical Workshop will be held at ESA ESRIN (Frascati, Italy) from 17 to 19 October 2023.

*Discussion*

Christine Bognar (NASA) commented via chat: *Fully agree, Ivan. When the SIT Technical Workshop and the CEOS Plenary are only a few weeks apart, the distinction between the two meetings, their purpose, and different audiences must be made. Thanks to the SIT Chair team for keeping this in mind for the development of the agenda for each of these two meetings. Far more CEOS principals participate in the Plenary because of key decisions made there.*

1. **CEOS Executive Officer Report**

Marie-Claire Greening (CEO) reported:

CEOS Work Plan 2023-2025

* In the new year calls will go out to all CEOS entities to engage on their updates for the 2023-2025 Work Plan, which will be finalised for endorsement by SIT-38. This includes reporting on and updating the CEOS deliverables that the Work Plan informs.
* The format of the Work Plan doesn’t currently easily lend itself to providing sufficient emphasis to all the work being undertaken by an increasing number of temporary cross-cutting task teams, which the CEO is considering how to handle better.

Upcoming meetings or events

* The GEO Programme Board will meet February 7-8, 2023.
* WGClimate-18 will be held February 28 to March 2, 2023.
* An updated calendar of CEOS meetings / events, and some key external events that the community may find of relevance, can be found in the written report. If any key meetings or events are missing from this calendar, or if any dates have changed since publication, please contact Marie-Claire.
* The GEO Ministerial meeting date has moved to 6-10 November 2023 and will be held in Cape Town as originally planned. Marie-Claire noted this is the week prior to CEOS Plenary, which may present some challenges for CEOS.

*Discussion*

Jorge Del Rio Vera (UNOOSA, WGCapD Chair) asked about the due date for inputs to the CEOS Work Plan. Marie-Claire confirmed the schedule for compiling the Work Plan. A call for inputs will be sent to CEOS entities in early January. Responses should be provided within 4 weeks from that date, and there will be plenty of time to edit after that. The goal is to have the Work Plan endorsed by SIT-38.

1. **Working Group Reports**

**WGDisasters**

Laura Frulla (CONAE, WGDisasters Vice Chair) reported:

* WGDisasters has no new updates to share following the CEOS Plenary.
* The joint WGISS-55 and WGDisasters-19 meeting will be held in Argentina, on April 18-20, 2023, with a potential field trip on the 21st.

**WGClimate**

Jeff Privette (NOAA, WGClimate Chair) reported:

* A meeting of the GHG Task Team was held on 13 October, where Yasjka Meijer (ESA) was welcomed. He succeeds Mark Dowell (EC) as lead for the team.
* Dwayne Wallace (NASA JPL) is leading an inter-agency study to provide recommendations on how the U.S. can be more coherent and strategic in developing a long-term, sustained approach to climate observations. This is a project of the Keck Institute for Space Studies (KISS), which WGClimate heard about at WGClimate-17 in October 2022.
* For UNFCCC COP 27, WGClimate submitted two posters to Earth Information Day advocating comprehensive and robust observing systems to support the Paris Agreement. Albrecht von Bargen (DLR, previous WGClimate Chair) was onsite.
* WGClimate will present a poster on Climate Data Record (CDR) definitions at the American Meteorological Society (AMS) Annual Meeting on 8 January 2023 (Denver, Colorado, USA). This will be the first attempt to showcase this work in public.
* Additional CDR use cases have been produced and are ready to be moved online.
* WGClimate is commencing bi-monthly meetings with GCOS leadership.
* WGClimate-18 is to be held February 28 to March 2, 2023, in Tokyo, hosted by JAXA.

*Discussion*

Osamu Ochiai (JAXA) noted that Misako Kachi, a member of WGClimate, is working closely with the Chair and Vice Chair of WGClimate on organising the Tokyo meeting. JAXA asked if the next GHG Task Team meeting should be included within WGClimate-18, however Mark mentioned it will be held at WMO on February 2nd, alongside the WMO GHG Workshop. Jeff will seek clarification with Yasjka.

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| **302-02** | Jeff Privette to check with Yasjka Meijer regarding the date for the next GHG TT meeting. And to raise the option for a meeting alongside WGClimate-18 in Tokyo. | **SEC-303** |

**WGISS**

Makoto Natsuisaka (JAXA, WGISS Chair) reported:

* At CEOS Plenary, an action was taken for WGISS to develop a CEOS Interoperability Framework. The WGISS Chair Team has discussed the issue and will start to develop a work plan by cooperating with the CEOS-ARD Oversight Group, LSI-VC, WGCV, SEO, etc.
* WGISS-55 will be held in Cordova, Argentina, from April 18-20, 2023, along with a joint session with WGDisasters.
* A report on the WGISS/WGCV joint session at WGISS-54 was submitted for the CEOS Newsletter.
* WGISS-56 will be held in Paris, France from October 24-26, 2023.

**WGCapD**

Jorge Del Rio Vera (UNOOSA, WGCapD Chair) reported:

* Two of the Q3 2022 deliverables have been completed, CB-20-12 (collaborative feasibility study) and CB-22-03 (webinar on satellite remote sensing for urban heat islands). CB-20-07 (best practice guide to e-learning) has been extended until Q2 2023.
* The webinar on air quality data access and analysis from geostationary satellites (CB-22-02) was held on 11, 18 and 28 October 2022. The deliverable has been extended until Q4 2022 to allow for reporting.
* The remaining ten WGCapD 2022 deliverables are in progress.
* There is one outstanding deliverable from Q2 2022, regarding space-based observations for meteorological hazards. There have been several attempts by WGCapD to contact ISRO with no success.
* Regarding the metadata standards for learning objects, a meeting will take place during the week of January 16. The previous report on metadata standards for learning objects has been distributed as preparatory material for this meeting.
* The WGCapD annual meeting will take place in Vienna, on March 1-3, 2023, in hybrid format. The WGCapD-12 registration form is [here](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fforms.office.com%2Fe%2FzxuD5r3YgS&data=05%7C01%7Cjorge.delriovera%40un.org%7C57c55580a6e84ca095da08dadc8ab801%7C0f9e35db544f4f60bdcc5ea416e6dc70%7C0%7C0%7C638064785590296621%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=RszOD%2F0lqvmZq3JXP3AsRmIOl9uVFkqIzfz02aKYPZA%3D&reserved=0).
* The next WGCapD team meeting will take place on 9 January at 13:00 UTC, with presentations expected from WGCapD members on areas of cooperation to facilitate the preparation of the update to the CEOS Work Plan.

**WGCV**

Philippe Goryl (ESA, WGCV Chair) reported:

* Philippe thanked Akihiko Kuze and JAXA for their leadership over the last two years.
* WGCV aims to establish a group within WGCV focused on SI-traceable satellites (SITSAT) coordination.
* WGCV participated in VH-RODA, with a report on *“WGCV for New Space”*. There was high interest in New Space using best practices and standard references for data quality. One of the main recommendations is to build a ‘match-up database’ with New Space images and *in situ* / Fiducial Reference Measurement (FRM) data. This could be done under the supervision and guidance of WGCV.
* WGCV will be participating in the CEOS New Space Task Team. Philippe will represent WGCV.
* CEOS-ARD assessment work continues. An additional point of contact to support Medhavy Thankappan (GA) will be announced within the next month or so. Clément Albinet (ESA) will support SAR assessments.
* The synthesis and summary of WGCV-51 will be published in the next GSICS newsletter.
* WGCV have planned a coordination discussion with AC-VC, which will take place later today (December 15).
* To prepare for SIT-38 in March, WGCV will discuss the FRM assessment process, the establishment of a group within WGCV on SITSATs, and the establishment of a TIRCALNET (Network for Thermal Infrared Cal/Val).
* WGCV-52 will be held at ESA ESRIN, Frascati, Italy, on June 5-9, 2023. This will be followed by a Land Product Validation and Evolution workshop and CEOS WGCV LPV subgroup meeting.
* The preparation of the GISCS (Global Space Based Intercalibration System) meeting is ongoing. It will be held February 27 to March 3, 2023, in College Park, MD, USA.
1. **GEO SEC Report**

No one from the GEO Secretariat was present. No written report was received.

Marie-Claire Greening (CEO) noted that she had just received the draft meeting report from the 18th GEO Plenary and that she would circulate that report to the SEC at the close of this meeting.

1. **SEO Report**

Dave Borges (SEO, NASA) reported:

* The Open Geospatial Consortium (OGC) ARD Standards Working Group kick-off meeting is planned to be held at ESA ESRIN on 21 February 2023.
* At an OGC Innovation Days Workshop last week (6-8 December), Dave Borges presented the latest CEOS-ARD developments to the OGC community and represented CEOS during an OGC Strategic Member Advisory Committee (SMAC) meeting. OGC has created a new ARD Standards Working Group that will use CEOS-ARD as a basis. The SEO is considering how it can help ensure strong CEOS representation and guidance, in support of the CEOS-ARD Oversight Group.
* At the 2022 CEOS Plenary, it was confirmed that CEOS has a continued interest in using the CEOS Earth Analytics Interoperability Lab (EAIL) for specific projects. These projects include COAST, WGCV (DEMIX), WGDisasters (Flood Monitoring), and rice projects. Alex Held (CSIRO), Jonathan Hodge (CSIRO), Brian Killough (NASA SEO) and Dave Borges (NASA SEO) agreed to continue support for EAIL through 2023. CSIRO agreed to advance the baseline EAIL framework, develop data pipeline demos, train the SEO team on advanced operation, and to maintain the core infrastructure. The SEO team will connect with potential CEOS users to define requirements and develop clear plans for the use of EAIL and the development of demonstration products and will provide support to EAIL users for application development and troubleshooting.
* The latest CEOS Newsletter article, *“2022 CEOS SIT Technical Workshop”* has been posted by JAXA and shared on the CEOS homepage and CEOS social media channels.
* Brian Killough (SEO, NASA) is retiring from NASA on 16 December (tomorrow). Brian will send his future contact information to CEOS colleagues shortly.
* CEOS SEC shared their appreciation for Brian’s work and friendship over the many years. The SEO he has led has become a crucial part of CEOS, and his efforts are felt across the whole organisation.
1. **AOB**

**CEOS Newsletter**

Satoshi Uenuma (JAXA / RESTEC) reported:

* The CEOS Newsletter Team posted an article on SIT Technical Workshop on December 1, which has been shared by the CEOS Comms Team on the website and social media.
* The Newsletter Team will endeavour to post each article as soon as it is received.
* JAXA has received some text from the CNES 2022 CEOS Chair Team today on the CEOS Plenary meeting, and this will be published shortly.
* The schedule of planned articles can be seen below.



**Recent & Upcoming Launches**

Chuck Wooldridge (NOAA) congratulated ESA and EUMETSAT on the successful launch of MTG-I1 on December 13. He noted the delay of the SWOT launch from today until tomorrow (December 16).

1. **Next Meeting and Adjournment**

Tanita Suepa (GISTDA, CEOS Chair Team) thanked everyone for attending CEOS SEC-302. SEC-303 will be held on January 19, 2023, at 7 AM US East. The plan for CEOS SEC teleconferences/meetings leading up to the 2023 Plenary is as follows (typically Thursday):

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| SEC-303: January 19, 2023SEC-304: February 16, 2023SEC-305: March 2, 2023SEC-306: March 28, 2023 (SIT-38)SEC-307: April 20, 2023SEC-308: May 18, 2023 | SEC-309: June 15, 2023SEC-310: July 20, 2023SEC-311: September 7, 2023SEC-312: September 28, 2023SEC-313: October 17, 2023 (SIT TW)SEC-314: November 13, 2023 (CEOS Plenary) |

The start time for all teleconferences will be 7 AM US East. Face-to-face meeting times will be advised closer to the dates.