

Document: ISO/TC 251/N **612** 

Secretariat of ISO/TC 251

To the Members of ISO/TC 251
Asset Management

31 July 2019

Date:

# Report on the 7<sup>th</sup> meeting of ISO/TC 251 Asset management, held at the Novotel Nanjing East Suning Galaxy Hotel, Nanjing, China during 6 to 10 May 2019

## 1. Opening of the meeting

Mr Rhys Davies, the TC251 Chair, called the meeting to order at 09:30hrs on the 15<sup>th</sup> of October.

Mr Hong Miao, Director of the Jiangsu Administration for Market Regulation, Mr Qiu Yueming, Vice president of the China National Institute of Standardization, and Mr Zhou Guangjun, President of the Jiangsu Institute of Quality and Standardization, kindly gave speeches of welcome to the delegates

The Chair thanked them for their respective welcomes.

### 2. Roll call of delegates

The roll was called by the Committee Manager.

(Note: the role of Secretary has been retitled Committee Manager in ISO)

The list of Participating, Observer and Liaison members is given in annex 'A'.

12 ISO Member Bodies and 2 Liaison members attended the plenary and WG meetings.

A listing of delegates attending the meetings is given in annex 'B'.

## 3. Agenda

The TC followed the agenda given in document TC251/N572, with the inclusion of an extra item 16.0, to cover a report on an additional meeting of the TC251/CAG that had been held mid-week.

## 4. Appointment of the drafting committee

The Committee Manager asked for delegates who do not have English as their first language to assist in checking the clarity of any draft resolutions.

Sweden and Germany kindly agreed to assist the Committee Manager in this matter.

## 5. Chair's report and opening address

The Chair gave the presentation in document TC251/N586.

#### This indicated:

- The results of the ballots on ISO/DTS 55010 and ISO/CD 55011.2
- A personal overview on the activities of each Working Group
- The need to break down some of the silos that appear to be emerging between the different groups in the TC
- The TC 251/CAG meeting had examined issues relating to:
  - The difficulty of obtaining inputs for the revision of the TC's Strategic Business Plan, and how this would now be delayed until after the meeting
  - o The new project proposals going through a review in WG4
  - WG6's approach to the revision of the Annex L (formerly Annex SL) High Level Structure and what had occurred at the first meeting of JTCG/TF14
- how TC251 engages with both the JTCG itself and its Task Force 14, as well as how members can interact within the TC on this work through WG6.

## 6. Report of the Secretariat

The Committee Manager gave the presentation in document TC251/N587.

## 6.1 Report of the 6<sup>th</sup> ISO/TC251 meeting, Amersfoort, 2018-10

The Committee Manager advised that he had received no comments against the report (given in document TC251/N564), and recommended that the TC should approve the report.

This was agreed.

## 6.2 Report of the Secretariat

#### This indicated:

- the membership of the TC (and changes since the last meeting)
- basic documents and policies in ISO for its work
- the use of the eCommittee system, and that this may be due to be replaced in the near future
- the TC251 web site <a href="https://committee.iso.org/tc251">https://committee.iso.org/tc251</a>
- the hyperlink for ISO's YouTube channel for training on standardization.

## The presentation also advised that:

- the ISO/TMB had issued guidance on making references to "legal" issues in standards
- the IEC has now adopted the former ISO specific Annexes SL and SP from the ISO/IEC Directives Part 1, which are now included in the 2019 Directives as Annexes L and M respectively. (The adoption of Annex L by the IEC could influence the JTCG/TF14 discussions on the definition of "risk")

The presentation noted the poor level of feedback from members against the request for inputs into the revision of the TC's Strategic Business Plan. Consequently, the revision

itself will now have to be deferred to the next meeting of the TC. A further request for inputs will be made following the meeting.

The Committee Manager apologized for the confusion that had been caused to members concerning the ballot results for ISO/DTS 55010 and for ISO/CD 55011.2 (in documents TC251/N576 and N581), as these had incorrectly referred to these as being the results of "new work item" ballots.

## 7. Confirmation of Liaisons

## 7.1 Confirmation of Liaisons

The Committee Manager gave the presentation on liaison members in document TC251/N588.

The Committee Manager thanked the liaison members for their reports (see documents TC251/ N585, N589).

## 7.2 <u>Liaisons Reports</u>

## 7.2.1 ISO/TC 322 Sustainable Finance

The Chair reported that both Mr Tetsuo Yagi (Japan) and himself had attended the first meeting of TC 322 that was held in March 2019, as TC 251 has expressed concerns about the potential for overlap in the work of the two committees.

In reality the discussions had focussed mainly on issues relating to climate change and sustainability and little on investment decision making, which is where TC251's concerns lie (this focus had caused the representatives from ISO/TC 207 *Environmental management* concerns over the overlap with their activities).

A proposed draft scope for TC 322 has since been circulated, and the Chair had proposed some minor amendments to give greater clarity to the role of TC251 as a key liaison to the TC.

TC 251 will continue to monitor the activities of TC 322 in the future and liaise as is needed.

## 8. Activity reports of TC 251 Working Groups

## 8.1 Chair's Advisory Group (CAG)

The Chair advised that the CAG had met the preceding day, where it had considered the issues he had addressed in his Chair's opening report (see item 5 above in this report).

## 8.2 WG3 Communications

Mrs Edmea Adell (France), Acting Convenor of WG3, gave the presentation in document TC251/N590.

It was noted that China had translated the articles available on the TC 251 website, and queried where they should be sent for posting.

Mrs Adell advised they should be sent to the WG3 Convenor.

## 8.3 WG4 Product improvement

Mr David Daines (Australia), Acting Convenor of WG4, gave the presentation in document TC251/N591.

No comments were raised against this report.

## 8.4 WG5 Finance

Mr Peter Way, Convenor of WG5, gave the presentation in document TC251/N592.

No comments were raised against this report

## 8.5 WG6 Preparation for the revision of ISO 55001

Mr Ton van Wingerden, Convenor of WG6, gave the presentation in document TC251/N593, with the parts on the activities of the ISO/TMB/TAG13-JTCG being presented by Mr Tom Carpenter (Australia).

Argentina commented that it was important for the TC to work against creating silos in its activities, as everyone would need to know about the activities in WG6.

The Chair replied that the TC had agreed that WG6 would be the focus for Annex SL activities at the meeting in October 2018, and projected slide number 3 from document N546 to show this. It indicated that anyone wishing to be engaged in the revision of the High Level Structure should join WG6.

## 8.6 WG7 Development of ISO 55011

Ms Tiffany Batac (USA), Acting Convenor of WG7, gave the presentation in document TC251/N594.

No comments were raised against this report.

#### 8.7 Spanish Translation Task Group (STTG)

Ms Maria-Aurora Agullo, Convenor of the STTG, gave the presentation in document TC251/N595.

No comments were raised against this report.

## 9. Report on the activities of the ISO/TMB/TAG13 Joint Technical Group on the Co-ordination of Management System Standards (the JTCG)

The Committee Manager gave the presentation in document TC251/596.

The key message from the JTCG is that the revision schedule for Annex L (formerly SL) is sacrosanct, with expected publication in the May 2021 edition of the ISO/IEC Directives, Part 1.

It had also been agreed that the (currently) 21 common terms and definitions from Annex L would now be given in all ISO "Type A" MSS (Type A MSS are those that specify requirements e.g. ISO 55001; Type B's give guidance, e.g. ISO 55002). This may impact any future revision of ISO 55000.

## 10. Items for future work

The Chair noted the potential for new work items arising from the WG4 review, as well as the possibility that an additional TC251/CAG meeting might need be held during the week to consider the results of the review.

## 11. Any other business

No items were raised.

## 12. Indication of potential resolutions

The Committee Manager gave the presentation in document TC251/N597.

This indicated potential resolutions for:

- Confirmation of liaisons
- Confirmation of the Chair as
- ISO/DTS 55010 to be moved to the publication stage
- ISO/CD 55011.2 to be moved to the DIS stage for ballot

## 13. Adjournment of the meeting

The Chair adjourned the meeting until 14:00hrs on Friday 10 May 2019.

## 14. Reconvening of the meeting and roll call

The Chair reconvened the meeting at 13:30hrs on 10 May 2019. (This was half an hour earlier than originally planned, but was agreed by all delegates.)

The Chair thanked our hosts for the very generous gifts of three paintings that had been presented to the TC at the reception earlier in the week. These included:

- A landscape, by the artist Mr.Zhang Chengxiang
- A portrait of a seated lady, by Ms.Luo Laiying
- A calligraphy script, by Mr. Pan Yongsi

The Chair noted the workshop on asset management that had been held on the Wednesday afternoon and thanked our hosts for having arranged it and for having facilitated the participation of TC251's members. A wide variety of interesting topics had been presented, and he was also grateful to the members of TC251 who had given presentations on their national activities in relation to asset management.

The roll was called by the Committee Manager.

## 15. Items brought forward from the opening plenary meeting

No items were raised.

## 16. Activity reports of TC 251 Working Groups

## 16.0 TC251/CAG

The Chair reported that the CAG had held an additional meeting on the Thursday morning to examine the WG system of reviewing project proposals.

This had resulted in the consolidation of several new project proposals and had determined that many of them needed to be scoped in more detail prior to going forward. The majority had been assigned to WG6, with one to WG4 and one to WG5.

It had also decided that there would be a follow up request for inputs to the TC's Strategic Business Plan, in order that a revision could be completed in the near future.

## 16.1 WG3 Communications

Mrs Edmea Adell, Acting Convenor of WG3, gave the presentation in document TC251/N598.

This indicated that the WG had examined or worked on:

- Materials to support the launch of ISO/TS 55010 (which is expected around September), including video interviews with key experts, a slide deck and a leaflet, as well as press releases and information for use by a variety of journals
- The need for translations into other languages of its guidance materials
- The preparation of the next edition of a biannual newsletter, for members and WG experts
- A welcome kit for new experts to TC251
- A list of "talking points" to assist experts convey the purpose of asset management quickly
- The need for members to provide contacts or drafts for case studies in the use of ISO 55001, as well as information about ISO 55001 certified or compliant organizations.

No comments were raised against this report.

## 16.2 WG4 Feedback

Mr Jyrki Paavilainen (Finland) gave the presentation in document TC251/N599, on behalf of the WG4 Convenor.

The report indicated that the WG had:

- completed its reviews of the new project proposals and had made its recommendations to the additional CAG meeting; the report then gave the results of the CAG's deliberations on each project.
- updated its knowledgebase with the addition of several TC251 documents
- developed guidance on conducting surveys and produced a template for case studies.
- progressed plans to survey those involved in the teaching of asset management, to understand if they have conceptual differences or any practical difficulties.

France queried as to what the expected outputs from the new project proposals were expected to be.

The Chair replied they would mainly be articles for the TC's website.

Australia queried how the committee could expect to attract additional human resources, in relation to the marketing of these new projects.

The Chair replied that by circulating the WG3 newsletter to give details of the TC's work programme, and by asking members to be proactive in talking to their national mirror committee members, that additional resources would hopefully come forward.

Mr Paavilainen requested members to submit any new ideas for work proposals before the next (Quito) meeting.

The Chair also reminded members to submit their inputs for the revision of the Strategic Business Plan, and advised that the Committee Manager would send a reminder to the members.

## 16.3 WG5 Finance

Mr Way, Convenor of WG5, gave the presentation in document TC251/N600.

This indicated that the WG had:

- reviewed the results of the enquiry on ISO/DTS 55010 and had considered and resolved the comments received in preparing a revised draft.
- liaised with WG4 on the terms and definitions included in the draft.
- planned that after some final editing, the draft would be ready to go forward for editing and publication, which is estimated to be achieved by the 3rd quarter of the year.
- liaised with WG3 on marketing and publicity, including shooting videos, for the launch of ISO/TS 55010
- planned, that following the meeting, it would work on a project on Asset Registers that had been assigned to WG5 by the CAG, in coordination with a project on Information Management that had been assigned to WG6.

On a personal note, Mr Way advised that he would be retiring from ISO work, and would be stepping down as the Convenor to WG5 once ISO/TS 55010 is published. He expressed his gratitude to all the members of the TC, the Secretariat, and especially of WG5 for all their support over the past few years. He had faced some tough challenges in his role but was delighted that the TS was finally on its way to being published.

No comments were raised against this report; however, the members applauded Mr Way following his final statement.

The Committee Manager reminded that Mr Way would have to complete a "lessons learned" project review report on the development of the TS, before he was allowed to escape.

## 16.4 WG6 Preparation for the revision of ISO 55001

Mr van Wingerden, Convenor WG6, gave the presentation in document TC251/N601.

This indicated that the WG had:

considered 8 topics concerning the revision of ISO's Annex L "High Level structure"
 (HLS) for management system standards and brainstormed ideas about them

- considered the HLS definition of "risk" in detail, as well as a response on behalf of TC251 to an enquiry by the ISO/TMB/TAG13 Joint Technical Coordination Group (JTCG)/TF14
- proposed several new projects to WG4 for review
- planned on how to progress the projects assigned to it by the CAG
- launched an enquiry to all TC251 experts for their ideas on revising ISO 55001, as the first step in a structured approach to compiling new issues for inclusion in the next revision of ISO 55001
- planned to complete its inputs into the revision of the TC251 Strategic Business Plan
- planned to complete a project review report on the revision of ISO 55002 to include "lessons learned".

Netherlands noted that the report from WG6 asked several questions about what the TC should do with ISO 55001, which could impact more than just WG6 in the future. It wondered if there was a way to share information across the whole TC.

Mr van Wingerden replied it would be useful if it could be broadcast across the TC. The Chair recognized that sharing information is an issue, as the ISO eCommittee system is very TC or WG membership specific and does not facilitate broadcasting to all experts. However, while he noted that development on the Annex L "HLS" would be the key point of interest, he also recognized that not everyone can be involved in every project.

The Committee Manager recommended that with the IEC now participating in the revision of Annex L, members should seek their national IEC nomination for this work.

France enquired as to how members should structure their feedback to WG6, and whether WG3 should develop a template for this.

Mr van Wingerden advised that WG6 is looking for open feedback, so did not want to force a structured approach at this time.

Sweden suggested that a limited framework might be helpful.

France commented that experts will need a clear indication of what they will be expected to do at the next meeting in Quito, or there is a risk they may choose not to attend.

Netherlands stated that there are two key issues that will affect the future ISO 55001, the work of the JTCG/TF14 on Annex L, and TC 251's work on asset management specific items. It suggested that the asset management specific items should be directed to the national standards body members of the TC, and that WG4 should advise on how best to obtain such inputs for ISO 55001.

Argentina stated that it shared both France and the Netherland's concerns. In addition it had other issues on the decision making process within the TC251/CAG on the acceptance or rejection of new work proposals.

The Chair replied that the TC251/CAG includes representatives from every country and all the convenors, and has an open decision making process. He also warned that if such a process were not to be continued, then all decisions would have to be made in plenary, which could take much longer.

Netherlands commented that it is the work that takes place between meetings that members need to be better informed on.

The Chair noted this issue and advised he would discuss with the convenors about ways of improving communications.

## 16.5 WG7 Development of ISO 55011

Ms Tiffany Batac, Acting Convenor of WG7, gave the presentation in document TC251/N602.

This indicated that the WG had:

- agreed on responses to major ISO/CD 55011.2 comment categories:
  - Scope and intent
  - Target audience
  - o The problem it seeks to solve
  - Value/impact
  - Examples or case studies desired
- reviewed, revised, and developed text for 20 public policy elements that create a supportive environment for asset management
- agreed on the direction for a revised document, aligned to a refined scope and target audience
- progressed the development of terms and definitions with WG4
- planned initial communications on the future ISO 55011 with WG3, for between now and the next meeting
- agreed to hold a series of virtual meetings to progress its work before the next meeting, with the possibility of an additional physical meeting
- planned to release the DIS of ISO 55011 following the next TC meeting (in Quito).

No comments were raised against this report.

## 17. Presentation of resolutions

The Committee Manager presented the resolutions given in document TC 251/N603, in draft form; all were subsequently approved.

#### 18. Items for future work

No specific items for future work were raised; however, the potential projects arising from the WG4 review were noted.

## 19. Requirements concerning a subsequent meeting

The member for Ecuador (INEN) kindly offered to host the next meeting for the TC, during 11 – 15 November 2019, in Quito (with a TC251/CAG meeting on 10<sup>th</sup> November).

(Secretariat note: Papers concerning the Quito meeting have been circulated as documents TC 251/N606 and N607.)

The Chair stated that the TC is fortunate to have a number of potential offers to host future meetings and gratefully thanked the members for making their invitations. He advised that the Secretariat would work on a future meetings plan and discuss it with the potential hosts before advising the TC.

A number of comments were raised about the frequency of the TC's meetings. Some were concerned that 2 meetings a year, as have been held recently, was too great a burden on experts.

The Chair noted these concerns and stated they would be taken into consideration in the meetings planning; however, he advised that a key component in the planning is the work programme and that, for example, when a Committee Draft is issued, it usually requires a meeting about 6 months later to resolve the received comments. On the other hand, a Draft International Standard requires a break of about 9 months between meetings.

## 20. Any other business

The Committee Manager reminded members to complete the ISO Feedback Survey for the meeting. Emails soliciting feedback are now being sent automatically to anyone who registers for a meeting using the ISO Meetings registration system.

## 21. Approval of resolutions

The approved resolutions are given in document TC 251/N603.

| Draft<br>Res.<br>No. | Concerning  | Result                                    | Approved<br>Resolution<br>No. |
|----------------------|---|---|-------------------------------|
| 1                    | Liaison arrangements  | Approved unanimously                      | 1/2019-05                     |
| 2                    | Progressing ISO/DTS 55010 to publication  | Approved unanimously                      | 2/2019-05                     |
| 3                    | Reappointing the Chair as Convenor of the TC251/CAG   | Approved unanimously                      | 3/2019-05                     |
| 4                    | Thank the 3 "acting" Convenors for their work during the week   | Approved unanimously                      | 4/2019-05                     |
| 5                    | Thanking Peter Way for his outstanding contribution to the work of TC251  | Approved unanimously and with acclamation | 5/2019-05                     |
| 6                    | Thanking the meeting hosts and sponsors   | Approved unanimously                      | 6/2019-05                     |
| 7                    | Special recognition to Dr Gao Ang and all the support team members for their superb planning and running of the meeting | Approved unanimously and with acclamation | 7/2019-05                     |

## 22. Closure of the meeting

On behalf of the TC, the Chair thanked Standards Administration China (SAC), the China National Institute for Standardization (CNIS), the Jiangsu Institute of Quality and Standardization as well as the other sponsors, for having hosted the meeting, for the excellent facilities provided and for their hospitality, which had enabled the TC to make good progress in its work.

In recognition of Mr Way's outstanding contribution to the activities of TC 251, the Chair presented him with the portrait of a seated lady by Ms.Luo Laiying and requested him to be its guardian on behalf of the TC. This was greeted with applause by the members.

The Chair then wished the delegates good and safe journeys home, before formally closing the meeting.

## Annex A

## Membership of ISO/TC 251 and record of attendance at the 7<sup>th</sup> meeting, Nanjing, China, 6 to 10 May 2019

| Participating members   Argentina   Argentina   Australia   Aust   | Member Body               | Present  | Not attending |
|--|---------------------------|----------|---------------|
| Argentina         -/           Australia         -/           Brazil         X           Brugaria         X           Canada         X           China         -/           Costa Rica         X           Croatia         X           Denmark         X           Ecuador         X           Finland         -/           France         -/           Germany         -/           Greece         X           India         X           Italy         X           Japan         -/           Mexico         X           Norway         X           Pakistan         X           Peru         X           Portugal         -/           Russian Federation         -/           Sweden         -/           Switzerland         X           Thailand         X           United Kingdom         X           United Kingdom <td>Participating members</td> <td></td> <td></td>   | Participating members     |          |               |
| Australia Belgium Belgium Brazil Bulgaria X Bulgaria X Canada X China X Costa Rica Croatia X Denmark X Denmark X Ecuador X Finland Y France X Germany X Greece X India X Japan X Italy Japan X Substan Peru X Pakistan Peru X X Portuga X X X X X X X X X X X X X X X X X X X  |                           |          |               |
| Belgium         X           Brazil         X           Brugaria         X           Canada         X           China         X           Costa Rica         X           Croatia         X           Denmark         X           Ecuador         X           Finland         Y           France         Y           Germany         Y           Greece         X           India         X           Italy         X           Japan         Y           Mexico         X           Netherlands         Y           Norway         X           Pakistan         X           Peru         X           Portugal         X           Russian Federation         X           South Africa         X           Sweden         Y           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United Kingdom         X           United Kingdom         X           United Kingdom         X <td></td> <td></td> <td></td>  |                           |          |               |
| Brazil         X           Bulgaria         X           Canada         X           China         ✓           Costa Rica         X           Croatia         X           Denmark         X           Ecuador         X           Finland         ✓           France         ✓           Germany         ✓           Grece India         X           India         X           Italy         X           Japan         ✓           Mexico         X           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         X           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United Kingdom         X           United States of America         X           Observing members         X           Costa Rica         X           Cyprus  |                           | •        | Y             |
| Bulgaria         X           Canada         X           China         X           Costa Rica         X           Croatia         X           Denmark         X           Ecuador         X           Finland         ✓           France         ✓           Gereace         X           India         X           Italy         X           Japan         ✓           Mexico         X           Nonway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         X           Observing members         X           Costa Rica         X           Cyprus         X           Cach Republic         X           Estonia         X           Hong Kong         X           Hungary   | _                         |          |               |
| Canada         X           China         X           Costa Rica         X           Croatia         X           Denmark         X           Ecuador         X           Finland         ✓           France         ✓           Germany         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         X           Russian Federation         ✓           Sweden         X           Swetzerland         X           Swetzerland         X           Uganda         X           United Kingdom         X           United States of America         X           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hungary   |                           |          |               |
| China         ✓           Costa Rica         X           Croatia         X           Denmark         X           Ecuador         X           Finland         ✓           France         ✓           Germany         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hungary         X           Ireland </td <td>_</td> <td></td> <td></td>  | _                         |          |               |
| Costa Rica         X           Croatia         X           Denmark         X           Ecuador         X           Finland         ✓           France         ✓           Germany         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         X   |                           |          | X             |
| Croatia         X           Denmark         X           Ecuador         X           Finland         ✓           France         ✓           Germany         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Notherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United Kingdom         X           United Kingdom         X           United States of America         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary<  |                           | V        | .,            |
| Denmark         X           Ecuador         X           Finland         ✓           France         ✓           Germany         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Nonway         X           Nonway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Uganda         X           United Kingdom         X           United Kingdom         X           United Kingdom         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Costa Rica         X           Cyprus         X           Casta Rica         X           X  |                           |          |               |
| Ecuador         X           Finland         V           France         V           Geremany         V           Greece         X           India         X           Italy         X           Japan         V           Mexico         X           Netherlands         V           Norway         X           Pakistan         X           Peru         X           Portugal         V           Russian Federation         X           South Africa         X           Sweden         V           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United Kingdom         X           United States of America         V           Observing members         X           Costa Rica         X           Cyprus         X           Costa Rica         X           Cyprus         X           Costa Rica         X           Lyprus         X           Costa Rica         X           Korpa K   |                           |          |               |
| Finland         ✓           France         ✓           Gerenary         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Costa Rica         X           Cyprus         X           Costa Rica         X           Cyprus         X           Costa Rica         X           Lithuania         X           Mali         X           Mali  |                           |          |               |
| France         ✓           Germany         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Affrica         X           Switzerland         X           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Kenya         X           Korea, Republic of         X           Lithuania         X   |                           |          | X             |
| Germany         ✓           Greece         X           India         X           Italy         X           Japan         ✓           Mexico         X           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Swidzerland         X           Swidzerland         X           United Kingdom         X           United Kingdom         X           United States of America         ✓           Observing members         ✓           Costa Rica         X           Cyprus         X           Costa Rica         X           Cyprus         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X <t< td=""><td>Finland</td><td>✓</td><td></td></t<>  | Finland                   | ✓        |               |
| Greece X India X Italy X Japan X Mexico X Netherlands X Pakistan X Pakistan X Peru X Portugal X Portugal X Sussian Federation X Sweden X Switzerland X Thailand X Uganda X United Kingdom X United States of America X Czech Republic X Estonia X Hong Kong X Hungary X Hungary X Ireland X Hungary X Korea, Republic of X Korea, Republic of X Koreannia X Koreannia X Koreannia X Malix  | France                    | ✓        |               |
| India         X           Italy         X           Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           New Zealand         X  | Germany                   | ✓        |               |
| Italy         X           Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         Costa Rica         X           Coyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Singapore         X  | Greece                    |          |               |
| Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Singapore         X  | India                     |          | X             |
| Japan         ✓           Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Singapore         X   | Italy                     |          | X             |
| Mexico         X           Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         Costa Rica           Coyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Singapore         X  |                           | ✓        |               |
| Netherlands         ✓           Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         ✓           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           Romania         X           Singapore         X   |                           |          | Х             |
| Norway         X           Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Switzerland         X           Switzerland         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         Costa Rica           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kernya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Singapore         X   | Netherlands               | ✓        |               |
| Pakistan         X           Peru         X           Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   |                           |          | Х             |
| Portugal         ✓           Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   |                           |          |               |
| Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  | Peru                      |          | X             |
| Russian Federation         ✓           South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  | Portugal                  | ✓        |               |
| South Africa         X           Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   |                           | ✓        |               |
| Sweden         ✓           Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  |                           |          | X             |
| Switzerland         X           Thailand         X           Uganda         X           United Kingdom         X           United States of America         X           Observing members           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           Mali         X           New Zealand         X           Singapore         X  |                           | <b>√</b> |               |
| Thailand         X           Uganda         X           United Kingdom         X           United States of America         ✓           Observing members           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Singapore         X   |                           |          | X             |
| Uganda         X           United Kingdom         X           United States of America         ✓           Observing members           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  |                           |          |               |
| United Kingdom X United States of America  Observing members Costa Rica X Cyprus X Czech Republic X Estonia X Hong Kong X Hungary X Ireland X Kenya X Korea, Republic of X Lithuania X Macao X Mali X Romania X Singapore X  |                           |          |               |
| Observing members         X           Costa Rica         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  |                           |          |               |
| Observing members         X           Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   | United States of America  |          | Λ             |
| Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   | Officed States of America | <b>,</b> |               |
| Costa Rica         X           Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   | Observing members         |          |               |
| Cyprus         X           Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  | Costs Pics                |          | Y             |
| Czech Republic         X           Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   |                           |          |               |
| Estonia         X           Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  | Czech Republic            |          | Y             |
| Hong Kong         X           Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  | Fetonia                   |          | Y             |
| Hungary         X           Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  |                           |          | Y             |
| Ireland         X           Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  |                           |          | Y             |
| Kenya         X           Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  | Treland                   |          | X             |
| Korea, Republic of         X           Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X  |                           |          | X             |
| Lithuania         X           Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   | Korea, Republic of        |          | X             |
| Macao         X           Mali         X           New Zealand         X           Romania         X           Singapore         X   | Lithuania                 |          | X             |
| Mali         X           New Zealand         X           Romania         X           Singapore         X   |                           |          | X             |
| New Zealand         X           Romania         X           Singapore         X  |                           |          |               |
| Romania X Singapore X  |                           |          |               |
| Singapore X  | Romania                   |          | X             |
|  |                           |          |               |
| ADDITION IN A SECOND IN A SECO | Spain                     |          | X             |

| Liaison members   |   |   |
|-------------------|---|---|
| CEN/TC 234        |   | Х |
| CEN/TC 319        |   | Х |
| CEN/TC 348        |   | Х |
| ICAO              |   | Х |
| IEC/TC 56         |   | Х |
| IEC/TC 115        |   | X |
| IEC/TC 123        |   | X |
| IIOC              |   | X |
| ISO/CASCO         |   | X |
| ISO/IEC JTC1/SC7  |   | X |
| ISO/IEC JTC1/SC27 |   | Χ |
| ISO/TC 59/SC13    |   |   |
| ISO/TC 59/SC14    |   | Χ |
| ISO/TC 67         |   | Χ |
| ISO/TC 68         |   | Χ |
| ISO/TC 108/SC 5   |   | Χ |
| ISO/TC 176/SC2    | ✓ |   |
| ISO/TC 184        |   | Χ |
| ISO/TC 184/SC4    |   | Χ |
| ISO/TC 207        |   | Χ |
| ISO/TC 224        | ✓ |   |
| ISO/TC 262        |   | Χ |
| ISO/TC 267        |   | Χ |
| ISO/TC 268/SC1    |   | Χ |
| ISO/TC 289        |   | Χ |
| ISO/TC 292        |   | Χ |
| ISO/TC 295        |   | Χ |
| ISO/TC 304        |   | X |
| ISO/TC 309        |   | Х |
| ISO/TC 322        |   | X |
| ISO/TC 323        |   | X |

## Annex B

## Listing of delegates attending the 7<sup>th</sup> meeting of ISO/TC251 Nanjing, China, 6 to 10 May 2019

| Representing                | Personal name | Family name   |
|-----------------------------|---------------|---------------|
|                             |               |               |
| ISO/TC251 Chair             | Rhys          | Davies        |
| ISO/TC251 Committee Manager | Charles       | Corrie        |
|                             |               |               |
| Argentina, IRAM             | María Aurora  | Agulló        |
| Argentina, IRAM             | Norberto      | Levin         |
| Australia, SA               | David         | Daines        |
| Australia, SA               | Kerry         | Brown         |
| Australia, SA               | Peter         | Way           |
| Australia, SA               | Tom           | Carpenter     |
| China, SAC                  | Ang           | Gao           |
| Finland, SFS                | Risto         | Pulkkanen     |
| Finland, SFS                | Jyrki         | Paavilainen   |
| France, AFNOR               | Celso         | De Azevedo    |
| France, AFNOR               | Edmea         | Adell         |
| France, AFNOR               | Ilham         | Hikmi         |
| Germany, DIN                | Thomas        | Zenz          |
| Japan, JISC                 | Naoki         | Takesue       |
| Japan, JISC                 | Arata         | Nakamura      |
| Liaison ISO/TC 176/SC 2     | Charles       | Corrie        |
| Liaison ISO/TC 224          | Thomas        | Zenz          |
| Netherlands, NEN            | Bram          | Alkema        |
| Netherlands, NEN            | Annemarie     | Kin           |
| Netherlands, NEN            | Hjalmar       | Boon          |
| Netherlands, NEN            | Ton           | van Wingerden |
| Netherlands, NEN            | Dimitri       | Koenen        |
| Portugal, IPQ               | Rita          | Brito         |
| Portugal, IPQ               | Nuno          | Almeida       |
| Russia, GOST R              | Vladimir      | Rostic        |
| Russia, GOST R              | Aleksei       | Sukmanov      |
| Sweden, SIS                 | Johan         | Paulsson      |
| USA, ANSI                   | Ryen          | Tarbet        |
| USA, ANSI                   | Edward        | Singer        |
| USA, ANSI                   | Tiffany       | Batac         |
| USA, ANSI                   | Scott         | Bash          |
| USA, ANSI                   | Thomas        | Smith         |
| USA, ANSI                   | Bruce         | Hawkins       |
| USA, ANSI                   | Rich          | Culbertson    |
| USA, ANSI                   | Shivprakash   | lyer          |

14

ISO/TC251/N 612

## Support team members:

| Name | Name          | Organization | Organization |
|------|---------------|--------------|--------------|
| 刘珏   | Liu Wei       | 江苏省质量和标准化研究院 | JIQS         |
| 吴杰   | Wu Jie        | 江苏省质量和标准化研究院 | JIQS         |
| 杜舒雅  | Du Shuya      | 江苏省质量和标准化研究院 | JIQS         |
| 扈雁   | Yan Yan       | 江苏省质量和标准化研究院 | JIQS         |
| 陈慧敏  | Chen Huimin   | 江苏省质量和标准化研究院 | JIQS         |
| 范丁元  | Fan Dingyuan  | 江苏省质量和标准化研究院 | JIQS         |
| 田咏梅  | Tian Yongmei  | 江苏省质量和标准化研究院 | JIQS         |
| 阮舒曼  | Ruan Shuman   | 江苏省质量和标准化研究院 | JIQS         |
| 严佳秋  | Yan Jiaqiu    | 江苏省质量和标准化研究院 | JIQS         |
| 许萌君  | Xu Mengjun    | 江苏省质量和标准化研究院 | JIQS         |
| 林空   | Lin Kong      | 江苏省质量和标准化研究院 | JIQS         |
| 郑重   | Zheng zhong   | 江苏省质量和标准化研究院 | JIQS         |
| 黄蓉   | Huang Rong    | 江苏省质量和标准化研究院 | JIQS         |
| 杨博   | Yang Bo       | 江苏省质量和标准化研究院 | JIQS         |
| 沈小静  | Shen Xiaojing | 江苏省质量和标准化研究院 | JIQS         |
| 陈晓龙  | Chen Xiaolong | 江苏省质量和标准化研究院 | JIQS         |
| 汪璇   | Wang Xuan     | 江苏省质量和标准化研究院 | JIQS         |
| 王晶   | Wang Jing     | 江苏省质量和标准化研究院 | JIQS         |
| 马世申  | Ma Shishen    | 江苏省质量和标准化研究院 | JIQS         |
| 俞晓磊  | Yu Xiaolei    | 江苏省质量和标准化研究院 | JIQS         |
| 杨博   | Yang Bo       | 江苏省质量和标准化研究院 | JIQS         |
| 周小俊  | Zhou Xiaojun  | 江苏省质量和标准化研究院 | JIQS         |
| 高昂   | Gao Ang       | 中国标准化研究院     | CNIS         |
| 程越   | Cheng Yue     | 中国标准化研究院     | CNIS         |
| 李柏晨  | Li Baichen    | 中国标准化研究院     | CNIS         |
| 李闻宇  | Li Wenyu      | 湖北省标准化与质量研究院 | HIQS         |