



Report of the 16th Plenary Meeting of ISO/TC 197

on 8 November 2007 in Montecatini Terme, Italy

<input checked="" type="checkbox"/>	For information and action	<input checked="" type="checkbox"/>	Actions required on several topics (see Annex 1)
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Dear members:

We are pleased to provide you with the *Report of the 16th Plenary Meeting of ISO/TC 197 on 8 November 2007 in Montecatini Terme, Italy*. Please refer to the action items (Annex 1) and the minutes of meeting (Annex 2) for an overview of the discussions that took place during the meeting.

This report is comprised of the following annexes, which shall be considered as an integral part of it.

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2	Minutes of the 16th plenary meeting of ISO/TC 197
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4	Approved agenda
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11	Progress report of WG 9 <i>Hydrogen generators using fuel processing technologies</i>

Address reply to:



Ms. Sylvie Gingras, Secretary of ISO/TC 197
Bureau de normalisation du Québec
333, rue Franquet
Sainte-Foy (Québec) CANADA G1P 4C7

Tel: + 1 418 652 2238 (ext. 2655) Fax: + 1 418 652 2292 E-mail: sylvie.gingras@bnq.qc.ca

<u>Annex</u>	<u>Subject</u>
12	Progress report of WG 10 <i>Transportable gas storage devices — Hydrogen absorbed in reversible metal hydrides</i>
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17	Canada's presentation made by Mr. Andrei Tchouvelev
18	China's presentation made by Mr. Mao Zongqiang
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20	Japan's presentation made by Mr. Kazuo Koseki
21	Spain's presentation made by Mr. Gabriel Garcia Naveda presented on behalf of Mr. Raphael Ben
22	USA's presentation made by Mr. Jim Ohi presented on behalf of Mr. Antonio Ruiz
23	Italy's plans presented by Mr. Raffaele Vellone
24	ISO/TC 22 and ISO/TC 197 cooperation agreement

We hope this report provides you with all the information that you require. Please advise if you have any comments including errors and omissions.

We wish to express our most sincere thanks to all participants for their contribution to this fruitful meeting.

Yours sincerely,



Sylvie Gingras, Secretary of ISO/TC 197
Bureau de normalisation du Québec
on behalf of the Standards Council of Canada

Enclosures (Annexes 1 to 24)

Circulation to:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> P-members | <input checked="" type="checkbox"/> ISO Central Secretariat | <input checked="" type="checkbox"/> TC Chairman |
| <input checked="" type="checkbox"/> O-members | <input checked="" type="checkbox"/> WG convener | |
| <input checked="" type="checkbox"/> A liaisons | <input type="checkbox"/> WG experts | |

Action items

Resulting from the 16th plenary meeting of ISO/TC 197 on 8 November 2007 in Montecatini Terme, Italy

Action is required on several topics. See the table below.

Agenda Item	Responsible	Standard	Action items	Deadline
8.1	Convener	WG5 ISO 17268	Hold the next meeting of ISO/TC 197 WG 5 in the first quarter of 2008	March 2008
8.1	Secretary	WG5 ISO 17268	Register the revision of ISO 17268 in the ISO/TC 197 work programme	December 2007
8.2	Convener	WG6 ISO 15869	Submit the third DIS text for ISO 17268 to the ISO/TC 197 Secretariat	31 December 2007
8.6	P-members	WG11 ISO 20012	Consider appointing additional experts to ISO/TC 197 WG 11 <i>Gaseous hydrogen — Fuelling stations</i>	December 2007
8.7	Convener	WG12 ISO 14687-2	Propose to TC Chair regarding the organization of a workshop to present to a wide range of stakeholders of the draft document to obtain acceptance prior to the DIS circulation.	May 2007
8.8	Secretariat	WG13 ISO 26142	Register the change in title and scope with the ISO Central Secretariat.	December 2007
9.1	Secretariat		Register the new target dates for all work items with the ISO Central Secretariat	December 2007
9.2	Convener	WG12 ISO14687-1	Report to TC chair regarding WG 12 interest in leading the revision of ISO 14687-1	May 2007
9.3	Chair/Secretary	Ad hoc HVFS	Invite the P-members of ISO/TC 197, ISO/TC 22 and ISO/TC 58 to identify experts to join the ad hoc group that will define a path forward for international standardization of hydrogen fuel systems for vehicles.	May 2007
10.1	Chair/Secretary	WG12	Look into bringing experts for ISO/TC 197 WG 12 from China.	December 2007
10.3	Chair/Secretary	Ad hoc Hydrogen Components	Remove the cylinders from the matrix. Circulate the matrix of hydrogen components and discuss the next steps with the three task force leaders.	ASAP
10.3	Leadership of ISO/TC 197 and ISO/TC 22		Coordinate the submission of NWIP regarding the revision of the ISO 15500 series to include hydrogen blends.	Ongoing

Minutes

of the 16th plenary meeting of ISO/TC 197 on 8 November 2007 in Montecatini Terme, Italy

1 Opening of the meeting

Mr. Randy Dey, the Chair of ISO/TC 197, opened the 16th plenary meeting by welcoming the attendees to Italy. He invited Mr. Luigi Cola, the head of the Italian delegation, to introduce Mr. Raffaele Vellone from ENEA (Italian National Agency for New Technologies, Energy and the Environment).

Mr. Vellone presented the activities of Italy in terms of hydrogen and fuel cell development. He indicated that a 3-year programme was currently underway until mid 2009 and that further discussions were required with the Italian government to define the next steps. He explained that these next steps would have to be in line with the new European programme called the Joint Technology Initiative (JTI). He described the JTI as the new instrument created by the European Commission (EC) to foster the deployment of hydrogen and fuel cell technologies in the next decade. He explained that the JTI was a combination of public and private funds. The EC would allocate 470 M Euros for this programme, which would have to be matched by industry. He mentioned that this structure would ensure that a balance is kept between the need for short and mid-term investments, which are the focus of the industry, and the need for long-term investments.

Mr. Vellone stressed the importance of the international standardization work for dissemination of the new hydrogen and fuel cell technologies. He indicated that these new technologies would have to be compatible on a worldwide basis and, for achieving this goal, the work of ISO/TC 197 was of a crucial importance. He wished the attendees a good meeting.

The Chair thanked Mr. Vellone for his speech. He mentioned that he was pleased to see that Italy was recognizing the importance of the international regulations, codes and standards work. He indicated that ISO/TC 197 was truly an international group where international standards were being written for the benefit of all stakeholders. He invited all the delegates to keep this in mind during the meeting.

The Chair then briefly outlined the new ISO and IEC guide « *Using and referencing ISO and IEC standards for technical regulations* », which had been circulated before the meeting as ISO/TC 197 doc. **N 385** (see Annex 7, Slides 2-4). He indicated that the World Trade Organization (WTO) had recognized the important contribution that international standards make towards facilitating international trade and, as a result, had built a strategic partnership with ISO and IEC. He mentioned that the UN had as well recognized the value of the ISO and IEC standards and made the decision to refer to them in the global regulations. He encouraged the attendees to review this new ISO/IEC guide, which explained how referencing ISO and IEC standards makes the revision process of regulations much more flexible.

The Chair explained that the WTO Technical Barriers to Trade (TBT) Agreement requires that national standardizing bodies use the international standards as a basis for their national standards through an adoption process. He also indicated that national bodies could also contribute to the international effort by submitting their national standards as New Work Item Proposals (NWIP) to ISO and IEC after getting the permission from the National Standards Development Organizations (SDO).

2 Roll call of delegates

The Chair provided administrative information with regard to how the meeting would be conducted. He invited the delegates to introduce themselves. Ms. Sylvie Gingras, the Secretary, asked the delegates to sign the attendance list circulated for its inclusion in the meeting report (Annex 3).

3 Adoption of the agenda

The draft agenda (doc. **N 370 R1**) was reviewed and approved (see Annex 4).

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4 Appointment of the drafting committee for this meeting

A drafting committee was appointed, consisting of Ms. Karen Hall from the USA and the Secretary of ISO/TC 197. During the meeting, the resolutions were drafted in English only (see Annex 5). The French translation of the resolutions is provided with this meeting report (see Annex 6).

ISO/TC 197 agreed that a drafting committee for this 16th plenary meeting be established as follows:

- Karen Hall (ANSI);
- Sylvie Gingras (Secretary of ISO/TC 197).

The resolutions would be drafted in English and translated in French by the Secretariat thereafter.
(resolution 312)

5 Approval of the Report of the 15th plenary meeting

The *Report of the 15th plenary meeting of ISO/TC 197 on 8 June 2006 in LaPlaine, Saint-Denis, France* (ISO/TC 197 doc. N 367) was discussed under this item of the agenda. It was approved with the following correction: agenda item 8.3, «extent» was changed to «extend».

As part of the review of the report, the Chair informed the delegates that he had taken care of the action item listed under item 8.2. He indicated that he had forwarded a copy of the published ISO 17268 *Compressed hydrogen surface vehicle refuelling connection devices* to Mr. Jack Pokrzywa and thanked him for the SAE contribution to the harmonization effort between ISO 17268 and the SAE J2600.

ISO/TC 197 approved the Report of the 15th plenary meeting of ISO/TC 197 (doc. N 367) as corrected.
(resolution 313)

6 Report of the Chairman

Mr. Dey presented the highlights of the *Report of the Chairman*, which had been circulated prior to the meeting as ISO/TC 197 document N 373. He also provided an update on the activities of the *World Forum for Harmonization of Vehicle Regulations* (WP.29) as well as the activities of the *UN ECOSOC Sub-Committee of Experts on the Transport of Dangerous Goods* (see Annex 7, slides 5-9).

7 Report of the Secretariat

Ms. Gingras indicated that the *Report of the Secretariat* (doc. N 372) reflected the situation of the technical committee at the time of its drafting. It would be used as the basis for the discussions during the meeting.

8 Status of all items of the programme of work

The Chair explained that, under this item of the agenda, working group conveners would be asked to provide a brief update of the progress achieved by their working group since the last ISO/TC 197 plenary meeting.

8.1 WI 17268: Progress report of the convener of WG 5

The Secretary presented on behalf of Mr. Livio Gambone, the report of the joint ISO/TC 197 and ISO/TC 22 WG 5 *Compressed hydrogen surface vehicle refuelling connection devices* (see Annex 7 – Slide 14 and Annex 8). She indicated that the working group would have its next meeting in the first quarter of 2008.

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To answer Jean-Pierre Cheynet's questions, it was confirmed that the revision of ISO 17268 would be registered in the ISO/TC 197 work programme. It was also mentioned that there was no requirement that the revision of ISO 17268 had to be in line with the revision of the SAE J2600. The Chair indicated that no mechanisms were in place for making this happen. He indicated that he would be in favour of such a cooperation since he was involved in the negotiations regarding the harmonization of the first edition of ISO 17268 and the SAE J2600. He concluded that he would be prepared to discuss this matter with SAE, should there be an opening from SAE. This would however involve negotiations that would not take place in an open forum such as the plenary meeting.

8.2 WI 15869: Progress report of the convener of WG 6

The Secretary presented on behalf of Mr. Craig Webster, the progress report of the joint ISO/TC 197, ISO/TC 58/SC 3 and ISO/TC 22 WG 6 *Gaseous hydrogen and hydrogen blends — Land vehicle fuel tanks* (see Annex 7 – Slide 15 and Annex 9).

The Chair indicated that the development of this International standard had been taken very seriously by the technical committee and that a lot of effort had gone into this work. He reminded the delegates that, at the request of the automotive players, extra time had been given in the last couple of years to make the standard more performance based.

The USA and Japan requested that the work be slowed down. They indicated that they were in the process of validating new test methods on the vehicle fuel system and that they would like to have the results of those tests in order to determine if these would have an effect on the tank standard. Canada, France, and Italy were of the opinion that the tank standard was mature enough and should proceed with the third DIS circulation as planned.

After much discussion, it was concluded that ISO 15869 would move to the third DIS as scheduled. The Chair stressed the fact that the working group still had time to make adjustments to the text of the DIS before it is submitted to the ISO/TC 197 Secretariat. The Chair extended the deadline for submitting the third DIS text to the ISO/TC 197 Secretariat to 31 December 2007.

The Chair added that the automotive representatives had made an important point regarding the need for a standard for the hydrogen fuel system for vehicles during the discussion. He indicated that he would discuss this matter further under item 9.3 of the agenda.

8.3 WI 22734: Progress report of the convener of WG 8

Mr. Dey provided the report of ISO/TC 197 WG 8 *Hydrogen generators using water electrolysis process* (see Annex 7 – Slide 16 and Annex 10). He indicated that the next working group meeting was to be scheduled.

8.4 WI 16110: Progress report of the convener of WG 9

Mr. Falco Thuis presented the report of ISO/TC 197 WG 9 *Hydrogen generators using fuel processing technologies* (see Annex 7 – Slide 17 and Annex 11). He thanked the working group members for their input.

8.5 WI 16111: Progress report of the convener of WG 10

Mr. Ned Stetson presented the progress report of WG 10 *Transportable gas storage devices — Hydrogen absorbed in reversible metal hydrides* (see Annex 7 – Slide 18 and Annex 12). He encouraged the P-members to vote positively on the DIS to make sure the International Standard is published in time for the December 2008 meeting of the *UN ECOSOC Sub-Committee of Experts on the Transport of Dangerous Goods*.

The Chair thanked Mr. Stetson and the working group members, who champion this work. He indicated that this work was a major challenge since it involved many interested parties, namely the P-members of ISO/TC 197, ISO/TC 58 and other technical committees as well as the representatives of the *UN ECOSOC Sub-Committee of*

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Experts on the Transport of Dangerous Goods. He emphasised the importance of achieving the timetable for the publication of the International Standard. He indicated that, if ISO/TC 197 met this timetable, there was a good chance that the UN would refer to ISO 16111, which would be a tremendous help for the industry.

8.6 WI 20012: Progress report of the convener of WG 11

Mr. Dey provided the report of WG 11 *Gaseous hydrogen — Refuelling stations* (see Annex 7 – Slide 19 and Annex 13). He reported that the TS, which was now being circulated for approval until 5 December 2007, was a guidance document that had been prepared with the input of players from all over the world. He indicated that this was a very important topic and expressed the desire to have more experts involved in the preparation of the International standard. He encouraged the P-members to appoint more experts.

8.7 WI 14687: Progress report of the convener of WG 12

Mr. Yasuo Takagi provided the report of WG 12 *Hydrogen fuel — Product Specification* (see Annex 7 – Slide 20 and Annex 14). The Secretary confirmed that the Technical Specification would be published in the next months, independently of the decision that would be taken with respect to the revision of ISO 14687-1.

The Chair commented that it would be interesting to open the discussion to a wide range of stakeholders to get their input and acceptance before the DIS circulation. He asked the WG 12 convener to provide a strategy paper in the next 6 months regarding the organization of a workshop (timing, location, invitees). He indicated that this workshop should be held before 2009.

8.8 WI 26142: Progress report of the convener of WG 13

Mr. Ichiro Matsubara provided the report of WG 13 *Hydrogen detectors* (see Annex 7 – Slide 21-22 and Annex 15). He indicated that the working group had been considering a change in the title and scope of the standard. After his explanations, the change in title and scope were unanimously approved.

ISO/TC 197 approved the title and scope change of ISO 26142.

The new title is to read: Hydrogen detection apparatus.

The new scope is to read:

This international standard defines the performance requirements and test methods of stationary hydrogen detection apparatus that is designed to measure and monitor hydrogen concentrations. The provisions in this standard cover the hydrogen detection apparatus used to achieve the **single and/or multilevel safety operations such as nitrogen purging or ventilation and/or system shut-off corresponding to the hydrogen concentration. The requirements applicable to the control system as well as the installation requirements of such apparatus are excluded. This standard sets out only the requirements applicable to a product standard of hydrogen detection apparatus, such as precision, response time, stability, measuring range, selectivity, and poisoning.**

This standard is intended to be used for certification purposes.

(resolution 314)

9 Establishment of the work priorities

9.1 Update of target dates for work in progress and confirmation/withdrawal of items on which no progress has been made

This agenda item was combined with item 8. The following resolution was adopted to record the agreed target dates.

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ISO/TC 197 confirmed the need for all the work items currently registered in its programme of work and, considering the report of the working group conveners, agreed with the following target dates:

WG	Work item	Title	Target dates
5	17268	Compressed hydrogen surface vehicle refuelling connection devices	CD: 2008-08 DIS: 2009-02 FDIS: 2010-02 IS: 2010-08
6	15869	Gaseous hydrogen and hydrogen blends — Land vehicle fuel tanks	DIS3: 2008-03 FDIS: 2008-12 IS: 2009-06
8	22734-1	Hydrogen generators using water electrolysis process — Part 1: Industrial and commercial applications	FDIS: 2008-02 IS: 2008-08
8	22734-2	Hydrogen generators using water electrolysis process — Part 2: Residential applications	DIS: 2008-06 FDIS: 2009-06 IS: 2009-12
9	16110-2	Hydrogen generators using fuel processing technologies — Part 2: Test methods for performance	FDIS: 2008-11 IS: 2009-05
10	16111	Transportable gas storage devices — Hydrogen absorbed in reversible metal hydrides	FDIS: 2008-04 IS: 2008-10
11	20012	Gaseous hydrogen — Fuelling stations	TS: 2008-03 CD: 2008-09 DIS: 2009-03 FDIS: 2010-03 IS: 2010-09
12	14687-2	Hydrogen Fuel — Product Specification — Part 2: PEM fuel cell applications for road vehicles	CD: 2008-04 DIS: 2009-04 FDIS: 2010-04 IS: 2010-10
13	26142	Hydrogen detection apparatus	DIS: 2008-05 FDIS: 2009-05 IS: 2009-11

(resolution 315)

9.2 Published standards

The Chair presented the list of published standard (see Annex 7, slides 23-26). He thanked Robert Hay, Falco Thuis and Ned Stetson as well as the members of WG 1, WG 9 and WG 10 for the publication of ISO 13985:2006, ISO 16110-1:2007 and ISO/TS 16111:2006 respectively.

The Chair informed the delegates that the revision of ISO 14687:1999/Cor. 1:2001 had been registered as a preliminary work item as a result of the systematic review. He mentioned that he had asked the WG 12 convener to report back in the next 6 months regarding the working group interest in leading this effort. The USA asked why the technical committee would spend time and effort in this revision since, from their point of view, nobody was using this standard. The Chair agreed that the results of voting on the systematic review had not shown a clear path forward. Only a simple majority were in favour of such a revision. Nevertheless, he did not want to influence the working group at this point. He indicated that he would wait for their recommendation before considering other options.

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9.3 New work item proposals and creation of working groups

Under this item of the agenda, the Chair reported that no new ISO/TC 197 work item proposal was in circulation at the time of the meeting. He encouraged the members to identify their specific needs. The Chair reported that he had heard from many countries that there would be a need for an international standard on composite storage tank for stationary applications. He invited the P-members to consider this item.

The Chair also indicated that he had considered the need for an international standard covering the hydrogen fuel system for vehicles that had been expressed under agenda item 8.2. He confirmed that an ad hoc group would be set up to prepare a strategy paper on how to move forward on such item.

Jean-Pierre Cheynet confirmed that ISO/TC 22 would be interested in participating in this effort and that there would be a need to define the system. The P-member from the USA indicated that this was an important issue and that he would take this information back to the USA.

The Chair indicated that the USA had pointed out earlier that a DOE funded report regarding the testing of hydrogen fuel systems would be available in the coming months. He indicated that it would be timely to initiate discussion about sharing this information. France concurred that there was a need for a system standard and that if data was coming out, it would be useful to have access to it.

The Chair concluded that P-members as well as ISO/TC 22 and ISO/TC 58 would be contacted and invited to join this ad hoc group. He indicated that this should be a small group composed of representatives of the automotive industry, technology providers and others that are actively working on this topic.

10 Strategic discussion of committee's work

10.1 ISO/TC 197 Business Plan

The Chair explained that P-members had been invited to present their National Hydrogen Roadmaps or major hydrogen undertaking in their countries through ISO/TC 197 document **N 376**. He invited Mr. Malhotra from India to present the Indian National Hydrogen Roadmap.

Mr. R. K. Malhotra indicated that India had initiated their hydrogen program 5 years ago to reduce its dependence on imported oil. He indicated that the Ministry of New and Renewable Energy (MNRE) had put together a Steering Committee under the leadership of Mr. Ratan Tata, Chairman of the Tata group, to prepare India's National Hydrogen Roadmap. According to this roadmap, 1 million hydrogen-fuelled vehicles would be on India's roads by 2020. He indicated that India was considering a stepped approach where hydrogen would be produced from natural gas reforming initially followed by renewable energy and nuclear. Similarly, India is looking at using its existing natural gas infrastructure to introduce vehicles fuelled by a mixture of hydrogen and natural gas followed by fuel cell vehicles. He indicated that a number of projects were underway to introduce these new technologies.

Mr. Malhotra expressed the importance of having global standards and that India was looking forward to being more involved in ISO/TC 197. He indicated that India would be hosting the *World Hydrogen Technologies Convention (WHTC)* in November 2009 and presented a short video on the event. He extended the invitation to host the ISO/TC 197 plenary meeting in conjunction with WHTC 2009. The Chair thanked Mr. Malhotra for his presentation, the impressive video as well as the offer to host the 2009 ISO/TC 197 plenary meeting. He indicated that the technical committee was pleased to see India's commitment to the ISO/TC 197 work.

The Chair then invited Argentina, Canada, China, Germany, Japan, Spain and the USA to make their presentation. These presentations are attached in Annexes 16-22. Italy's plans, which were described by Mr. Vellone at the opening of the meeting, were kindly forwarded by Italy after the meeting (see Annex 23).

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The Chair thanked all the P-members for their presentation. He indicated that some key parts of this information would be collected for later use to update the ISO/TC 197 business plan. He invited the P-members that had not presented during this meeting to consider doing so in the next meetings as this would become a standing item of the agenda. Based on the comments made during China's presentation, he stated that he would follow-up with the P-member from China to identify their experts to WG 12.

10.2 Membership

The Chair reviewed the current membership list (see Annex 7, slides 27-28). He informed the members that China had recently joined the ranks of the P-members of ISO/TC 197. He indicated that he was pleased to see that China as well as India were being represented for the first time at this meeting.

10.3Ad hoc group on hydrogen components

The Chair provided an update on the ISO/TC 197 ad hoc group on hydrogen components (see Annex 7, slides 29-31). He indicated that the interim report of this ad hoc group had been distributed as ISO/TC 197 N 377 on 14 September 2007. He explained that the matrix of hydrogen components was separated into the following categories:

1. The international standards that can be used as is for hydrogen applications.
2. The international standards that can be used for hydrogen applications with the addition of a few hydrogen specific requirements (e.g. material compatibility).
3. The international standards would require many changes to be considered suitable for hydrogen applications.
4. N/F: No international standard was found for these components.

The Chair explained that the next steps of the ad hoc group would include the following:

- o Review of category 1 by the ISO/TC 197 Secretariat;
- o Review of category 2 for the identification of the changes required to the standards. To that effect, three groups under the leadership of task force leaders would be formed to look at the stationary, automotive as well as the portable and transportation application.

The Chair indicated that in the case of Category 3 and 4 (N/F), P-members would be invited to submit New Work Item Proposals (NWIP). It was clarified that, in these cases, any P-member could submit a NWIP should they wish to do so. P-members could also submit national standards as the basis for the international standardization work as long as they obtained the permission to use the national standards from the national Standards Development Organization (SDO). Jean-Pierre Cheynet pointed out that experience has shown that such permissions were difficult to obtain from SAE.

As part of the discussion, it was agreed that the leadership of ISO/TC 197 and ISO/TC 22 would review any NWIP resulting from this adhoc group and be guided by the provisions of the ISO/TC 197 and ISO/TC 22 cooperation agreement (see Annex 24). At the request of Mr. Luigi Cola from Italy and ISO/TC 58, it was agreed that the onboard fuel tanks would be excluded from this exercise since they cannot be considered as devices.

Jean-Pierre Cheynet and Aldo Bassi indicated that the series of ISO 15500 standards had just gone through a systematic review and would be revised to include the hydrogen blends as per the recommendations emanating

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from the ISO Roundtable. They indicated that ISO/TC 197 should be involved in these revisions and confirmed that they would discuss this matter with the ISO/TC 197 leadership before launching the NWIP.

11 Permanent editing committee

The role and composition of the permanent editing committee was discussed and confirmed under this item of the agenda (see Annex 7, slides 32-33).

ISO/TC 197 confirmed the composition of its permanent editing committee. The members are comprised of:

- Karen Hall (ANSI);
- Sylvie Gingras (Secretary of ISO/TC 197).

This permanent editing committee is responsible for:

- updating and editing enquiry drafts (DIS) and Final Draft International Standards (FDIS) considered at meetings or circulated between meetings;
- ensuring their conformity with Part 2 of the ISO/IEC Directives;
- ensuring the equivalence of the texts in the official languages.

(resolution 316)

12 Liaisons and report of liaisons

12.1 Existing liaisons

The Chair reported that a special effort had been made to strengthen the ISO/TC 197 liaisons with its most important technical committees. He indicated that coordination meetings had been held in the course of the year with ISO/TC 11, ISO/TC 22, ISO/TC 58, ISO/TC 58/SC 3, IEC/TC 31 and IEC/TC 105, mainly to improve the communication.

12.1.1 ISO/TC 11 Boilers and pressure vessels

The report (ISO/TC 197 doc. N 380) provided by Mr. John Koehr, the observer appointed by TC 11 to follow the work of ISO/TC 197, was discussed under this item of the agenda.

The principles underlying the publication of ISO 16528-1 *Boilers and Pressure Vessels — Part 1: Performance requirements* and ISO 16528-2 *Boilers and Pressure Vessels — Procedure for fulfilling the requirements of ISO 16528-1* were presented by the ISO/TC 197 Secretary (see Annex 7, slides 35-39).

The Chair recalled his meeting with the leadership of ISO/TC 11 in September 2007. Both Mr. Kevin Ennis and Mr. John Koehr expressed that the publication of the two international standards represented a major milestone for ISO.

12.1.2 ISO/TC 22 Road vehicles

Under this item of the agenda, the joint ISO/TC 197 and ISO/TC 22 work was presented for the benefit of the members (see Annex 7, slides 40-42). Mr. Jean-Pierre Cheynet confirmed that the cooperation with ISO/TC 197 was excellent.

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12.1.3 ISO/TC 58 Gas cylinder

The joint work with ISO/TC 58/SC 3 was discussed under this item of the agenda (see Annex 7, slides 43-45). The Chair reported that the leadership of ISO/TC 197 had met with the leadership of ISO/TC 58 and ISO/TC 58/SC 3 in February 2007. He indicated that the meeting had fostered better understanding between the two technical committees.

12.1.4 ISO/TC 220 Cryogenic vessels

The report on ISO/TC 220 activities (ISO/TC 197 doc. N 383) prepared by Ms. Nicole Legent, Secretary of ISO/TC 220, was discussed under this item of the agenda. More specifically, the list of the ISO/TC 220 standards cited as normative references in the ISO/TC 197 documents was presented (see Annex 7, slides 46-47).

12.1.5 IEC/TC 31 Equipment for explosive atmospheres

The ISO/TC 197 and IEC/TC 31 Joint Chair's Statement (ISO/TC 197 doc. N 379) was discussed under this item of the agenda (see Annex 7, slides 48-50). The Chair reported that this was the result of a series of coordination meetings with the leadership of IEC/TC 31. The convener of WG 13 thanked the Chair for this new arrangement, which suited the working group very well.

12.1.6 IEC/TC 105 Fuel cell technologies

The report of IEC/TC 105 (ISO/TC 197 doc. N 384) was discussed under this item of the agenda (see Annex 7, slides 51-52). The Chair indicated that good cooperation would be required especially in the case of ISO/TC 197 WG 10 and IEC/TC 105 WG 8, since the standards developed by these two working groups are being considered by the *UN ECOSOC Sub-Committee of Experts on the Transport of Dangerous Goods*.

12.2 Establishment of new liaisons and cancellation of liaisons

The list of existing liaisons was reviewed under this item of the agenda (see Annex 7, slides 53-55). No changes were proposed by the P-members. The Chair reported that a new Category D liaison had been established between the *European Industrial Gases Association* (EIGA) and WG 11.

12.3 Cooperation with other organizations

This item was covered under agenda item 6.

13 Other business

No other business was discussed.

14 Requirements concerning a subsequent meeting

The Chair informed the members that the next plenary meeting would be held in Brisbane, Australia in conjunction with the next World Hydrogen Energy Conference (WHEC). He indicated that WHEC was taking place on 15-19 June 2008. The date of the ISO/TC 197 plenary meeting would be confirmed later.

The Chair reported that the Republic of Korea had shown an interest in hosting the 2009 plenary meeting. He indicated that the details were to be finalized. He also mentioned that India had extended an invitation to host the 2009 meeting in conjunction with the next WHTC earlier in the meeting.

Minutes

of the 16th plenary meeting of ISO/TC 197 on 8 November 2007 in Montecatini Terme, Italy

Before breaking for the drafting of the resolution, the Chair on behalf of the members thanked Italy for hosting the meeting. These comments were reflected in the following resolution:

ISO/TC 197 thanked our hosts, UNI-CTI, the member body from Italy, for generously providing meeting space and excellent hospitality for the ISO/TC 197 plenary and working group meetings and especially Faber for the very nice reception on 7 November.

(resolution 317)

15 Approval of resolutions

After the meeting resumed, the draft resolutions were distributed to the P-members. The draft resolutions were reviewed and the attendees expressed their agreement.

ISO/TC 197 approved all the resolutions taken during this 16th plenary meeting (nos. 312 to 317).

(resolution 318)

16 Closure of the meeting

The Chair thanked the attendees for their excellent contribution and closed the meeting.