



Report of the Secretariat
for the 14th plenary meeting of ISO/TC 197 on 10 November 2005 in Palm Springs, California, USA

<input checked="" type="checkbox"/> Next plenary meeting of ISO/TC 197 on: 10 November 2005	<input checked="" type="checkbox"/> Deadline for appointment of delegates: 20 October 2005
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Dear members,

We are pleased to provide our report in preparation for the next meeting of ISO/TC 197, which report consists of the following:

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1 General information

<u>Committee</u>	ISO/TC 197 <i>Hydrogen technologies</i>		
<u>Chairman:</u>	Mr. Randy Dey (Canada)	<u>Secretariat:</u>	SCC (Canada)
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2 Scope of the technical committee

Standardization in the field of systems and devices for the production, storage, transport, measurement and use of hydrogen.

3 Previous meetings of ISO/TC 197

<u>No.</u>	<u>Date</u>	<u>Location</u>	<u>Report reference</u>	<u>Resolutions</u>
13	2004-07-02	Yokohama, JAPAN	N 307	288 to 298 incl.
12	2003-09-04	Grenoble, FRANCE	N 269	279 to 287 incl.
11	2002-06-13/14	Montréal, CANADA	N 249	254 to 278 incl.
10	2001-10-25	Paris, FRANCE	N 204	218 to 253 incl.
9	2000-09-15	Höllriegelskreuth/Munich, GERMANY	N 162	186 to 217 incl.
8	1999-04-06	Vienna, Virginia, USA	N 135	156 to 185 incl.
7	1998-06-26	Buenos Aires, ARGENTINA	N 119	126 to 155 incl.
6	1997-05-27	Toronto, CANADA	N 96	104 to 125 incl.
5	1996-06-28	Stuttgart, GERMANY	N 79	84 to 103 incl.
4	1995-06-07	Quebec City, CANADA	N 68	69 to 83 incl.
3	1994-06-17	Cocoa Beach, UNITED STATES	N 58	44 to 68 incl.
2	1993-06-24/25	Tokyo, JAPAN	N 47	19 to 43 incl.
1	1990-06-21/22	Zurich, SWITZERLAND	N 5, 6, 7, 8, 9	1 to 18 incl.

4 Structure

The current structure of ISO/TC 197 consists of working groups reporting directly to the technical committee. Each of these working groups has the responsibility of one or two projects as described below:

WG and convener	Identification	Title	Status update	Stage	Agreed target dates for the next stage	Revised target dates
WG 1 Joint with ISO/TC 22 Convener: D. Robert Hay, Canada	ISO 13985	Liquid hydrogen — Land vehicle fuel tanks	The third DIS was circulated by the ISO Central Secretariat until 2004-03-15. Comments were returned to the WG on 2004-04-20 (ISO/TC 197 doc. N 280). Two WG meetings were held to discuss the results.	Current stage: Enquiry stage (40) Next stage: FDIS	FDIS: 2005-01 IS: 2005-06	
WG 5 Joint with ISO/TC 22 Convener: Livio Gambone, Canada	ISO 17268	Compressed hydrogen surface vehicle refuelling connection devices	The first DIS was circulated by the ISO Central Secretariat until 2004-07-05. The Final report of voting was submitted to the ISO Central Secretariat on 11 August 2005. At the same time, the WG is actively working on resolving the deferred technical issues that will be included in a revision of the International Standard.	Current stage: Enquiry stage (40) Next stage: FDIS	FDIS/IS: To be determined after the DIS closing date.	
WG 6 Joint with ISO/TC 22 and ISO/TC 58/SC 3 Convener: Craig Webster, Canada	ISO 15869	Gaseous hydrogen and hydrogen blends — Land vehicle fuel tanks Part 1: General requirements Part 2: Particular requirements for metal tanks Part 3: Particular requirements for hoop wrapped composite tanks with a metal liner Part 4: Particular requirements for fully wrapped composite tanks with a metal liner Part 5 : Particular requirements for fully wrapped composite tanks with a non-metallic liner	The first DIS was circulated by the ISO Central Secretariat until 2004-06-15. Comments were returned to the WG on 2004-07-19 (ISO/TC 197 doc. N 295 to N 299). Two WG meetings were held to discuss the results. The editing committee is reviewing the proposed second DIS text, which recombines the five part standard in a single document.	Current stage: Enquiry stage (40) Next stage: Second DIS	DIS2: 2005-03 FDIS: 2005-09 IS: 2006-03	
WG 8 Convener: Randy Dey, Canada	ISO 22734-1	Hydrogen generators using water electrolysis process — Part 1: Industrial and commercial applications	The first DIS is being circulated by the ISO Central Secretariat until 2005-12-29.	Current stage: Enquiry stage (40) Next stage: Report of voting	DIS: 2004-10 FDIS: 2005-10 IS: 2006-04	

WG and convener	Identification	Title	Status update	Stage	Agreed target dates for the next stage	Revised target dates
WG 8 Convener: Randy Dey, Canada	ISO 22734-2	Hydrogen generators using water electrolysis process — Part 2: Residential applications	The working group is actively working on the preparation of the first committee draft.	Current stage: Preparatory stage (20) Next stage: CD	CD: 2005-06 DIS: 2005-12 FDIS: 2006-12 IS: 2007-06	
WG 9 Convener: Falco Thuis, Netherlands	ISO 16110-1	Hydrogen generators using fuel processing technologies — Part 1: Safety	The first committee draft was circulated as ISO/TC 197 document N 276 until 2004-06-02. The DIS text was submitted to the ISO Central Secretariat for DIS circulation on 2005-09-15. It will be circulated in the next days.	Current stage: Committee stage (30) Next stage: DIS	DIS: 2004-10 FDIS: 2005-12 IS: 2006-06	
	ISO 16110-2	Hydrogen generators using fuel processing technologies — Part 2: Procedures to determine efficiency	The working group is actively working on the preparation of the first committee draft.	Preparatory stage (20) Next stage: CD	CD: 2005-06 DIS: 2005-12 FDIS: 2006-12 IS: 2007-06	
WG 10 Convener: Ned Stetson, USA	ISO 16111	Transportable gas storage devices — Hydrogen absorbed in reversible metal hydrides	The first committee draft was circulated as ISO/TC 197 document N 304 until 2005-02-14. The comments were returned to the WG on 2005-03-18 (ISO/TC 197 doc. N 308)	Committee stage (30) Next stage: DIS	CD: 2004-10 DIS: 2005-04 FDIS: 2006-04 IS: 2006-10	
WG 11 Convener: Randy Dey,Canada	ISO 20012	Gaseous hydrogen and hydrogen blends — Fuelling stations	The working group is actively working on the preparation of the first draft technical specification.	Preparatory stage (20) Next stage: DTS	DTS: 2005-06	
WG 12 Convener: Yasuo Takagi, Japan	ISO 14687-2	Hydrogen fuel — Product Specification — Part 2: Road vehicle fuel cell applications	The working group is actively working on the preparation of the first draft technical specification.	Preparatory stage (20) Next stage: DTS	CD: 2004-11 DAM: 2005-05 FDAM: 2006-05 AM: 2006-11	
WG 13 Convener: Ichiro Matsubara, Japan	ISO 26142	Hydrogen detectors	This new project was registered by the ISO Central Secretariat on 2005-09-08. P-members are invited to nominate additional WG experts by 2005-10-26 (ISO/TC 197 doc. N 315)	Proposal stage (10) Next stage: WD	CD: 2006-09 DIS: 2007-03 FDIS: 2008-03 IS: 2009-09	

Acronyms:

CD: Committee Draft

DIS: Draft International Standard

FDIS: Final Draft International Standard

DTS: Draft Technical Specification

5 Subjects to be discussed at the 14th plenary meeting of ISO/TC 197

In order to help committee members adequately prepare their delegates, information relevant to the main subjects that will be discussed during the next plenary meeting of ISO/TC 197 is provided in the next sub-sections of this report.

5.1 Agenda Item 3: Adoption of the Agenda

The draft agenda (document N 311) will be approved under this item of the agenda. P-members are invited to inform the ISO/TC 197 Secretariat of any other business they would like to discuss during the next plenary meeting of ISO/TC 197 prior to 20 October 2005. Only the items that have been forwarded by 20 October 2005 to the ISO/TC 197 Secretariat will be discussed at the meeting.

5.2 Agenda Item 4: Appointment of the Drafting Committee for this Meeting

A drafting committee will be established for drafting the resolutions taken during the plenary meeting. This drafting committee should comprise at least a technical expert with an extensive knowledge of English and the Secretary of ISO/TC 197.

5.3 Agenda Item 5: Approval of the Report of the 13th Plenary Meeting

The *Report of the 13th plenary meeting of ISO/TC 197* (document N 307) will be approved under this item of the agenda. Should there be some wrong or missing information, they should be reported to the Secretariat of ISO/TC 197 prior to 20 October 2005.

5.4 Agenda Item 6: Report of the Chairman

The *Report of the Chairman* will be presented under this item of the draft agenda.

5.5 Agenda Item 7: Report of the Secretariat

The *Report of the Secretariat for the 14th plenary meeting of ISO/TC 197* (ISO/TC 197 doc. N 317) will be dealt with under this item of the agenda. This report is reflecting the situation of the technical committee at the time of its drafting. Should there be errors in this document, they should be reported to the Secretariat of ISO/TC 197.

5.6 Agenda Item 8: Status of all Items of the Programme of Work

Agenda Item 9.1: Update of Target Dates for Work in Progress and Confirmation/Withdrawal of Items on which no Progress has been made

Under items 8.1 to 8.8 and item 9.1 of the agenda, the conveners will be invited to present the progress report of their working groups. The report should include an update on the activities of the working group since the last plenary meeting, any suggested changes in the title and scope of the work item and a review of the target dates that have been agreed to at the last plenary meeting or at the creation of the working groups. If these target dates have been exceeded (see summary table under item 4), conveners should provide a justification and suggest new target dates to the technical committee.

P-members should be prepared to review the target dates and confirm the market relevance of the work items included in the ISO/TC 197 programme of work.

For your information, the ISO rules regarding the management of the programme of work are summarized in Annex A. The complete set of ISO deliverables is provided in Annex B.

5.7 Agenda Item 9.2: Published Standards

Under this item of the agenda, the documents that have been published by ISO/TC 197 will be looked at.

Identification	Title	Status update
ISO 13984	Liquid hydrogen — Land vehicle fuelling system interface	Currently under systematic review until 2006-03-27 (ISO/TC 197 doc. N 316)
ISO 14687	Hydrogen fuel — Product specification	To be subjected to a systematic review upon completion of ISO/TC 197 WG 12 work.
ISO/PAS 15594	Airport hydrogen fuelling facility	Published in 2004.
ISO/TR 15916	Basic considerations for the safety of hydrogen systems	Published in 2004

5.8 Agenda Item 9.3: New Work Item Proposals and Creation of Working Groups

Complete and documented new work items proposals (NWIP) forwarded to the attention of the ISO/TC 197 Secretariat prior to 20 October 2005 will be discussed under this item of the agenda.

The originators of the NWIP will be invited to make a short presentation to the attendees. The NWIP will not be formally approved at the meeting. The ISO rules require that NWIP be circulated for voting for a period of three months.

5.9 Agenda Item 10.1: ISO/TC 197 Business Plan

Under this item of the draft agenda, the seventh version of the ISO/TC 197 Business plan (to be circulated shortly) will be discussed. This seventh version will be prepared by the Chairman and Secretary and include the results of the first two phases of the revision of the Business plan, which are described below:

- Phase 1: Incorporation of the comments received from the circulation of the sixth version of the ISO/TC 197 Business plan among the P-members of ISO/TC 197 (ISO/TC 197 doc. N 281 as well as ISO/TC 197 doc. N 303)
- Phase 2: Incorporation of the comments received from the Hydrogen industry survey, which was aimed directly at the hydrogen industry (ISO/TC 197 doc. N 286).

5.10 Agenda Item 10.2: Membership

Under this item of the draft agenda, the membership of ISO/TC 197 will be reviewed and means to attract new members will be discussed. The actual membership of ISO/TC 197 consists of 18 P-members and 12 O-members.

The participating members are Argentina, Austria, Belgium, Canada, Denmark, Egypt, France, Germany, Italy, Japan, the Netherlands, Norway, the Republic of Korea, the Russian Federation, Spain, Sweden, Switzerland, and the United States of America.

The observer members are Australia, Brazil, China, the Czech Republic, Hungary, India, Jamaica, the Libyan Arab Jamahiriya, Serbia and Montenegro, Thailand, Turkey and the United Kingdom.

An update will also be provided on the Ad hoc group — Membership that was formed at the last plenary meeting of ISO/TC 197. As indicated in ISO/TC 197 doc. N 302, the objective of this ad hoc group was to:

- analyse the participation in the committee work;
- build and implement as much as possible a strategy on how to attract/upgrade new members in ISO/TC 197.

The work of this ad hoc group was intended to help ISO/TC 197 provide input to the ISO/TC 197 business plan. As part of this exercise, the ad hoc group was to identify:

- The lack of participation by specific countries or regions known to have significant business, trade or experience in the field addressed by the scope of the ISO committee, and the possible reasons for this lack of participation;
- Specific ISO member bodies, international organizations or regions of the world that the ISO committee would like to contribute to its work;
- Any identified lack of participation or representation of the concerns of significant companies or other stakeholders via ISO member bodies, and the possible reasons for this lack of participation;
- Any efforts to improve representation and participation in the ISO committee, including actions to encourage participating ISO member bodies to better incorporate the concerns of specific stakeholders in their positions and delegations

The circulation of ISO/TC 197 doc. **N 302** showed that there were not enough support for this ad hoc group. The USA was unable to take on the leadership due to lack of funding and only a few countries nominated experts. Based on the above, the ISO/TC 197 Chair made the decision to disband the ad hoc group.

In its place, the ISO/TC 197 chair recommends that all P-members continue to take on a role in working to build the technical committee through their contacts. We are pleased to advise you that ISO/TC 197 now have some new members on-board:

P-members : Austria, Denmark and Spain

O-members : Brazil

5.11 Agenda Item 10.3: Ad hoc group on hydrogen components

The ad hoc group on hydrogen components, which was created at the last plenary meeting of ISO/TC 197 and populated through the circulation of ISO/TC 197 doc. **N 301**, will present its report under this item of the draft agenda. The objective of this ad hoc group was to come up with a strategy for the standardization of hydrogen components.

5.12 Agenda Item 10.4: ISO Round Table on Global Harmonization of Regulations, Codes and Standards (RC&S) for Gaseous Fuels and Vehicles

Under this item of the agenda, the chair of ISO/TC 197, who is the project manager of this new initiative on behalf of ISO, will inform the members of the upcoming *ISO Round Table on Global Harmonization of RC&S for Gaseous Fuels and Vehicles*.

5.13 Agenda Item 11: Permanent Editing Committee

Through resolution 293/2004, ISO/TC 197 confirmed the composition of its permanent editing committee. The members are comprised of:

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

Under this item of the draft agenda, the composition of the permanent editing committee will be reviewed. This permanent editing committee is responsible for:

- updating and editing committee drafts (CD), 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.

5.14 Agenda Item 12.1: Existing Liaisons: ISO/TC 22, ISO/TC 58/SC 3, IEC/TC 105 and ISO/TC 220

Under this item of the draft agenda, P-members will be given an update on the activities of its most important liaisons: ISO/TC 22 *Road vehicles*, ISO/TC 58/SC 3 *Gas cylinder design* ISO/TC 220 *Cryogenic vessels* and IEC/TC 105 *Fuel cell technologies*.

5.15 Agenda Item 12.2: Establishment of New Liaisons and Cancellation of Liaisons

The relevance of maintaining, cancelling or creating liaisons will be looked at under this item of the draft agenda. The actual liaisons of ISO/TC 197 are listed below:

Organizations in liaison	Name of the Organization
ISO/TC 11	Boilers and pressure vessels
ISO/TC 20	Aircraft and space vehicles
ISO/TC 20/SC 14	Space systems and operations
ISO/TC 22	Road vehicles
ISO/TC 22/SC 21	Electric road vehicles
ISO/TC 22/SC 25	Road vehicles using natural gas
ISO/TC 58	Gas cylinders
ISO/TC 58/SC 3	Gas cylinder design
ISO/TC 70	Internal combustion engines
ISO/TC 118	Compressors, pneumatic tools and pneumatic machines
ISO/TC 153	Valves
ISO/TC 192	Gas turbines
ISO/TC 193	Natural gas
ISO/TC 203	Technical energy systems
ISO/TC 207	Environmental management
ISO/TC 220	Cryogenic vessels
IEC/TC 31	Electrical apparatus for explosive atmosphere
IEC/TC 105	Fuel cell technologies
EHA	European Hydrogen Association (Cat. A liaison)
NHA	National Hydrogen Association (Cat. D liaison)

5.16 Agenda Item 12.3: Cooperation with other Organizations

Under this item of the draft agenda, P-members will be given an update on the hydrogen vehicles related activities of the World Forum for Harmonization of Vehicle Regulations (WP.29) that acts within the framework of the policies of the United Nations Economic Commission for Europe (UN ECE).

5.17 Agenda Item 13: Any other Business

Any other business will be discussed under this item of the agenda.

5.18 Agenda Item 14: Requirements concerning a Subsequent Meeting

The location of the year 2006, 2007 and 2008 meetings will be discussed under this item of the agenda.

6 Documents to bring to the meeting

Delegates should bring copies of the following documents. Hard copies of these documents will not be available at the meeting.

- Draft agenda **N 311**
- Report of the 13th plenary meeting **N 307**
- Report of the Secretariat **N 317**
- Seventh version of the ISO/TC 197 Business plan **To be distributed**

We hope this report provides you with the necessary information required to be prepared for the plenary. Should you have any questions or need any additional information, please do not hesitate to contact us.

Yours sincerely,



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

Circulation to:

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

ISO rules for the management of the programme of work (Agenda item 9.1)

Projects initiated after 1 September 2003 — Standards Development Tracks introduced by the ISO TMB

All NWIP submitted to ISO/CS for registration after 1 September 2003 (applies to ALL projects intended to become International Standards but not to alternative publications: TS, PAS, TR), shall be assigned one of the following standards development tracks:

1. **Recommended timeframe (see Table 1): 36 months** – This is the preferred timeframe for developing International Standards.
2. **Accelerated timeframe (see Table 2): 24 months** – This timeframe may be agreed to if there is an urgent market need or if a suitable document is available that can be submitted directly to enquiry (DIS).
3. **Enlarged timeframe (see Table 3): 48 months** – In exceptional cases, an enlarged timeframe may be agreed if appropriate justification is given (e. g. in the case of terminology or innovative test methods).

Actions to be taken by ISO/CS and TMB -- A project is cancelled automatically if:

- the target date for DIS (stage 40.00) is not met and if the TC/SC has not taken and implemented a decision within 6 months after the target date has expired,
- the target date for FDIS (stage 50.00) is not met and if the TC/SC has not taken and implemented a decision within 6 months after the target date has expired,
- the maximum timeframe (5 years) is not met and if the TC/SC does not provide appropriate justification which would allow TMB to grant an exception,
- there is no visible progress within 2 years (i. e. no change of stage code) and if the TC/SC does not provide appropriate justification which would allow TMB to grant an exception.

Note – A cancelled project may be continued if a new enquiry among the ISO members has shown that there is still a market need to develop an International Standard.

All other existing work items included in the TC work programme (registered before 1 September 2003)

For all other existing work items currently in the TC work programme, the new TMB automatic cancellation rules apply:

- projects which have not moved for the last two years will be automatically cancelled,
- projects which have not reached the publication stage after five years will be automatically cancelled.

ISO rules for the management of the programme of work (Agenda item 9.1)

Table 1 — Recommended timeframe				
Project stage	Milestones	Action/Deliverable	Sub-stage	Suggested time limits¹
Preliminary stage	Starts with ...	Receipt of proposed preliminary work item (PWI)	00.00	
	Ends with ...	Rejected PWI / Proposed new work item proposal	00.98/00.99	
Proposal stage	Starts with ...	Registration of New work item proposal (NP)	10.00	
	Intermediate milestone ...	Ballot on NP	10.20	
	Ends with ...	Rejected NP / Approved new project	10.98/10.99	
Preparatory stage	Starts with ...	Registration of approved new work item (AWI)	20.00	0 months
	Intermediate milestone ...	First working draft (WD)	20.20	
	Ends with ...	Approval to register the first Committee draft (CD)	20.99	
Committee stage	Starts with ...	Registration of Committee Draft (CD)	30.00	12 months
	Intermediate milestone ...	Ballots on CD/s (incl. conversion to DIS)	30.20	
	Ends with ...	Proposed Draft International Standard (DIS)	30.99	
Enquiry stage	Starts with ...	Registration of Draft International Standard (DIS)	40.00	18 months
	Intermediate milestone ...	Ballots on DIS/s	40.20	
	Intermediate milestone ...	Voting summary dispatched	40.60	24 months
	Ends with ...	Proposed Final Draft International Standard (FDIS)	40.99	
Approval stage	Starts with ...	Registration of FDIS	50.00	30 months
	Intermediate milestone ...	Ballot on FDIS	50.20	32 months
	Intermediate milestone ...	FDIS voting summary dispatched	50.60	35 months
	Ends with ...	Rejected / Approved text of International Standard	50.98/50.99	
Publication stage	Starts with ...	Approved text of International Standard	60.00	
	Ends with ...	Published International Standard	60.60	36 months

¹ The suggested time limits represent the elapsed time since the registration (stage 20.00) by the ISO Central Secretariat, i.e. when a project is deemed to be active.

ISO rules for the management of the programme of work (Agenda item 9.1)

Table 2 — Accelerated timeframe				
Project stage	Milestones	Action/Deliverable	Sub-stage	Suggested time limits²
Preliminary stage	Starts with ...	Receipt of proposed preliminary work item (PWI)	00.00	
	Ends with ...	Rejected PWI / Proposed new work item proposal	00.98/00.99	
Proposal stage	Starts with ...	Registration of New work item proposal (NP)	10.00	
	Intermediate milestone ...	Ballot on NP	10.20	
	Ends with ...	Rejected NP / Approved new project	10.98/10.99	
Preparatory stage	Starts with ...	Registration of approved new work item (AWI)	20.00	0 months
	Intermediate milestone ...	First working draft (WD)	20.20	
	Ends with ...	Approval to register the first Committee draft (CD)	20.99	
Committee stage	Starts with ...	Registration of Committee Draft (CD)	30.00	—
	Intermediate milestone ...	Ballots on CD/s (incl. conversion to DIS)	30.20	
	Ends with ...	Proposed Draft International Standard (DIS)	30.99	
Enquiry stage	Starts with ...	Registration of Draft International Standard (DIS)	40.00	6 months
	Intermediate milestone ...	Ballots on DIS/s	40.20	
	Intermediate milestone ...	Voting summary dispatched	40.60	12 months
	Ends with ...	Proposed Final Draft International Standard (FDIS)	40.99	
Approval stage	Starts with ...	Registration of FDIS	50.00	18 months
	Intermediate milestone ...	Ballot on FDIS	50.20	20 months
	Intermediate milestone ...	FDIS voting summary dispatched	50.60	23 months
	Ends with ...	Rejected / Approved text of International Standard	50.98/50.99	
Publication stage	Starts with ...	Approved text of International Standard	60.00	
	Ends with ...	Published International Standard	60.60	24 months

² The suggested time limits represent the elapsed time since the registration (stage 20.00) by the ISO Central Secretariat, i.e. when a project is deemed to be active.

ISO rules for the management of the programme of work (Agenda item 9.1)

Table 3 — Enlarged timeframe

Project stage	Milestones	Action/Deliverable	Sub-stage	Suggested time limits³
Preliminary stage	Starts with ...	Receipt of proposed preliminary work item (PWI)	00.00	
	Ends with ...	Rejected PWI / Proposed new work item proposal	00.98/00.99	
Proposal stage	Starts with ...	Registration of New work item proposal (NP)	10.00	
	Intermediate milestone ...	Ballot on NP	10.20	
	Ends with ...	Rejected NP / Approved new project	10.98/10.99	
Preparatory stage	Starts with ...	Registration of approved new work item (AWI)	20.00	0 months
	Intermediate milestone ...	First working draft (WD)	20.20	
	Ends with ...	Approval to register the first Committee draft (CD)	20.99	
Committee stage	Starts with ...	Registration of Committee Draft (CD)	30.00	18 months
	Intermediate milestone ...	Ballots on CD/s (incl. conversion to DIS)	30.20	
	Ends with ...	Proposed Draft International Standard (DIS)	30.99	
Enquiry stage	Starts with ...	Registration of Draft International Standard (DIS)	40.00	30 months
	Intermediate milestone ...	Ballots on DIS/s	40.20	
	Intermediate milestone ...	Voting summary dispatched	40.60	36 months
	Ends with ...	Proposed Final Draft International Standard (FDIS)	40.99	
Approval stage	Starts with ...	Registration of FDIS	50.00	43 months
	Intermediate milestone ...	Ballot on FDIS	50.20	45 months
	Intermediate milestone ...	FDIS voting summary dispatched	50.60	47 months
	Ends with ...	Rejected / Approved text of International Standard	50.98/50.99	
Publication stage	Starts with ...	Approved text of International Standard	60.00	
	Ends with ...	Published International Standard	60.60	48 months

³ The suggested time limits represent the elapsed time since the registration (stage 20.00) by the ISO Central Secretariat, i.e. when a project is deemed to be active.

Complete set of ISO deliverables (Agenda item 9.1)

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Deliverables	Type of document	Available for publication	Level of consensus reached	Rules for publication
ISO/PAS Publicly Available Specification ⁴	Normative	After the preparatory stage (stage 20)	Consensus within a working group	Acceptance of the document requires the approval by a simple majority of the P -members of the technical committee
ISO/TS Technical Specification ⁴	Normative	After the committee stage (stage 30)	Consensus within the ISO technical committee	Acceptance of the document requires approval by 2/3 of the P -members of the technical committee
ISO/TR Technical Report	Informative	After the committee stage (stage 30)	Consensus within the ISO technical committee	A technical committee may decide, by simple majority vote of the P -members, to request that a text be published in the form of a technical report. The ISO Secretary-General, if necessary in consultation with the Technical Management Board, shall decide whether to publish the document as a technical report.
ISO International Standard	Normative	After the publication stage (stage 60)	Formal approval by the full ISO membership	If the FDIS is approved by 2/3 of the P -members voting and not more than ¼ of all votes cast are negative, the text is approved and the Central Secretariat publishes the International Standard.

Standards Development Process

Stage 00	Stage 10	Stage 20	Stage 30	Stage 40	Stage 50	Stage 60
Preliminary stage	Proposal stage	Preparatory stage	Committee stage	Enquiry stage	Approval stage	Publication stage
	New work item proposal (NWIP)	Working drafts or ISO/PAS	Committee drafts or ISO/TS or ISO/TR	DIS	FDIS	ISO International Standards

⁴ The ISO/PAS and ISO/TS shall be reviewed every three years, and at the second review they shall either be withdrawn or revised to become full ISO International Standards.