Update on ISO TC 265 – 'Carbon Dioxide Capture, Transportation and Geological Storage'

Tim Dixon
IEA GHG R&D Programme
CSLF Technical Group, 28 June 2016

ISO TC 265 - CCS

- Proposed by Canada. Technical Committee TC265 was approved by ISO members in 2011. Canadian Chair, Canada and China Secretariat. 20 participating countries**,** 8 observer countries**,** 7 Liaison orgs.
- IEAGHG involved as Liaison Organisation
- Objective: to prepare standards for the design, construction, operation, environmental planning and management, risk management, quantification, monitoring and verification, and related activities in CO_2 capture, transportation, and geological storage.
- Excluded: ocean storage of CO_2 by direct injection; mineral carbonation storage; industrial uses of CO_2 not related to CCS; and legal liability and permitting.
- NWIP = New Work Item Proposal; TR = Technical Report; WD = working draft; CD = final draft to committee TC265; DIS = Draft International Standard; IS = International Standard; Mirror Committee = a national committee for inputting to TC265

ISO Standards Development Process

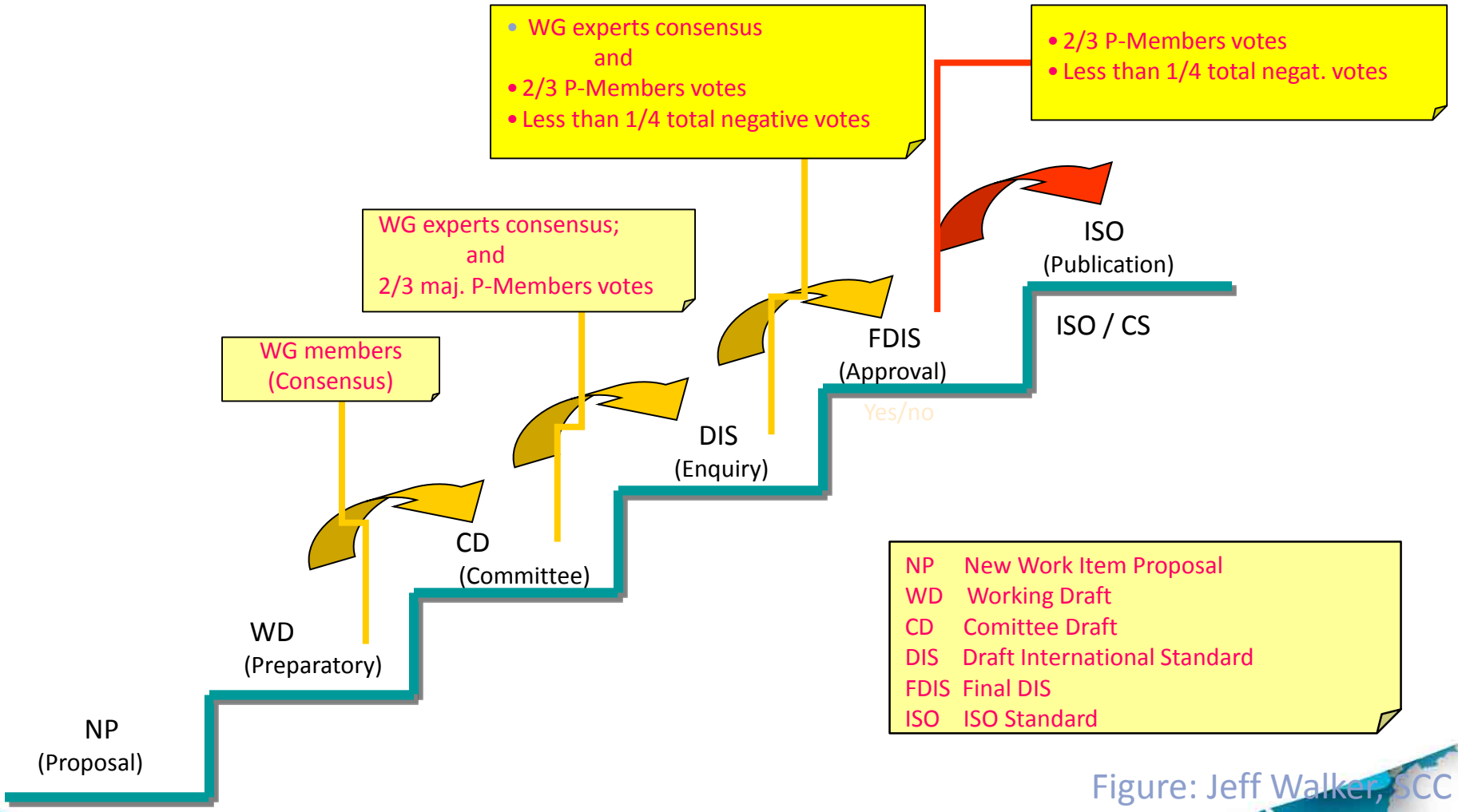

Figure: Jeff Walker, SCC

TC265 Working Groups

- WG 1 Capture – Japan
- WG 2 Transport – Germany
- WG 3 Storage - Canada and Japan
- WG 4 Quantification and Verification – China and France
- WG 5 Cross-cutting issues – France and China
- WG 6 CO2-EOR – USA and Norway

- IEAGHG participating in TC265 plenary, WG 1 Capture, WG 3 Storage, WG 4 Q&V, (WG 5 Cross-cutting)

Update on ISO TC 265 – ‘Carbon Dioxide Capture, Transportation and Geological Storage’

- 7th meeting was 2-5 May 2016 : Laramie, Wyoming, USA
- New information on slides is in **bold**

ISO TC 265 Update

WG 1 Capture

- TR in 1.5 – 2 years. Draft TR by Q3 2014. IS by 2017
- Produced a draft Technical Report reviewing all capture technologies and applications – DTR-27912. Was approved and will be published. Will be first report from TC265.
- Scope is pre, post, oxy, power, cement, steel, industrial gas production
- IEAGHG's Stanley Santos involved

- NWIP for an IS on "Performance evaluation methods for post-combustion CO_2 capture integrated with a power plant" issued to TC265 for voting. Was approved, work starting on DIS 27919-1 (ie part 1). Draft CD by June 2016. Topic for part 2 is tbd. **Working draft prepared**.

ISO TC 265 Update

WG 2 Transport

- Draft IS (DIS) on CCS Pipeline Transportation Systems. Offshore and onshore pipelines. Seed document is DNV RP J202. IS by Oct 2016
- Approved to move to DIS. DIS was sent out for approval, 3 month ballot ended 6 October – Approved 14/14 (100%). Will work through comments. Publication of IS due Oct 2016.
- Will consider what work next (eg ships, rail, truck) – **Decided on none – WG2 to become 'dormant'.**

ISO TC 265 Update

WG 3 Storage

- NWIP to produce IS. Using CSA Z741 as ‘seed document’
- Saline aquifers and hydrocarbon reservoirs without hydrocarbon production
- IS by June 2017
- IEAGHG (Tim Dixon) on Tech Panels for M&V and Closure and Management Systems
- No show-stoppers, but varying levels of detail in different sections.

ISO TC 265 Update

WG 3 Storage

- Draft CD-27914 was submitted to TC265 vote summer 2015. Was shared by IEAGHG with members. IEAGHG submitted comments of a technical nature.
- 980 comments
- Approved by ballot to move to next stage of DIS - 4 yes, 5 yes with comments, 3 no, 8 abstentions – not fully supported but proceeds
- Agreed process to address the 980 comments – **worked completed by teleconferences**
- Re-affirmed does not apply to CO2 EOR, but does to depleted reservoirs
- Will amend language to be less prescriptive more performance-based
- Draft IS Sep 2016, **so plan is to be submitted to ISO for May 2016**
- **Comments on DIS by Oct 2016**

ISO TC 265 Update

WG 4 Quantification and Verification

- Objective : GHG emissions performance of whole CCS chain
- Produce TR first (1-2 years) then IS(s)
- NWIP approved by ballot :– concerns on process and too prescriptive eg define purity, specify monitoring technologies. Revised outline agreed – not prescriptive
- IEAGHG (Tim Dixon)
- Progressing slowly on TR-27915. Scope further refined. Drafting at advanced stage. Aim is for CD by June 2015 for TC265 comments. Will be shared by IEAGHG with members.
- WG6 (EOR) interaction and concerns
- **The DTR 27915 was issued for ballot voting and comments on 29 January, with a deadline of 30 April 2016.**
- **700 comments.**
- **NWIP being developed for IS**

ISO TC 265 Update

WG 5 Cross Cutting Issues

- Develop IS for Terminology “CCS Vocabulary” – France lead.
- ISO CD 27917 (was 19251) CCS Vocabulary
- Concern over timings with other WGs, so split into 6 parts (one for each WG). Part 1 is cross-cutting. Parts 2-6 when agreed with WGs. Extend time to 4 years.
- **A CD ISO/CD 27917-1.2 “Carbon dioxide capture, transportation and geological storage — Vocabulary — Part 1: Cross-cutting terms” was issued for voting on the 11 February 2016 with a deadline of 12 April.**
- **Approved. 184 comments.**
- **DIS to ISO for 23 May 2016. Publish Oct 2017. Revise after 2 years.**

ISO TC 265 Update

WG 5 Cross Cutting Issues

- NWIP on TR on ‘Lifecycle Risk Management for Integrated CCS’ (China lead) – approved by TC265 voting. Draft TR by May 2016. Assess overarching aspects of risk analysis which fall outside other WGs.

- A working draft (WD) was circulated, receiving 353 comments which were addressed in Oslo. **A second Working Draft has been circulated within WG5, as DTR 27918, for comments by 14 April 2016. The plan is for a CD in summer 2016**.
- **300 comments. DTR ballot in August 2016**

ISO TC 265 Update

WG6 on Storage using CO2 EOR

- USA and Norway lead. Working to produce IS
- Recognises geological and operational differences to DSF storage
- Will avoid duplication with WG3 – focus on CO2-EOR specific topics
- Concerns with overlap with WG4
- Noting challenges due to ongoing operational practices and commercial sensitivities

- **CD draft to ISO in June 2016 for ballot**
- **DIS by Oct 2016**
- **Publish by April 2018**

Future ISO TC 265

- **Next meeting:**

- **28 Nov to 2 Dec, Sapporo, Japan**

- Public information on the work is available at http://www.iso.org/iso/iso_technical_committee?commid=648607