WELCOME TO THE OPENING SESSION OF 10GBASE-LRM

19th - 21st July 2005

10GBASE-LRM JUNE 2005

- IEEE802.3aq Officers
- Reflector and Web details
- Ground Rules & Standards Process
- Goals for this meeting
- Project Status and Schedule Discussion
- Approve Minutes

IEEE 802.3aq Officers

- Task Force Chair: David Cunningham
- Editor: Nick Weiner
- Web Master: Piers Dawe

- TP2 weekly call leader: Tom Lindsay
- TP3 weekly call leader: Jim McVey

- Channel Ad hoc Chair: Ian White
  - Task 1 (OM1, OM2, OM3 & connectors) leader: Richard Penty
  - Task 2 (Time variation of channel & MN): Jonathan King
  - Task 3 (Input-output parameters) leader: Lars Thon
  - Task 4 (Launch & Mode Filtering) leader: Yu Sun
  - Task 5 (Validation) leader: Nick Weiner

REFLECTOR AND WEB

There is a reflector set up

To subscribe, use this URL:

- **http://ieee802.org/3/aq/reflector.html**

To subscribe via e-mail send this message

- **stds-802-3-10gmmf <yourfirstname> <yourlastname> to ListServ@ieee.org**

The IEEE 802 web page URL:

http://ieee802.org/3

10GBASE-LRM web page URL:

- **http://ieee802.org/3/aq**

MOBILE PHONES

PLEASE SWITCH OFF YOUR MOBILE PHONES

THANK YOU

GROUND RULES

802.3 TF Rules apply – Foundation based upon Robert's rules of order

- **Anyone in the room may speak**
- **Anyone in the room may vote**
- **Respect – give it, get it**
- **No product pitches**
- **No corporate pitches**
- **No prices – this includes costs, ASPs, etc. no matter what the Currency**
- **No restrictive notices**

IEEE-SA STANDARDS BOARD BYLAWS ON PATENTS IN STANDARDS

IEEE standards may include the known use of essential patents and patent applications provided the IEEE receives assurance from the patent holder or applicant with respect to patents whose infringement is, or in the case of patent applications, potential future infringement the applicant asserts will be, unavoidable in a compliant implementation of either mandatory or optional portions of the standard [essential patents]. This assurance shall be provided without coercion and prior to approval of the standard (or reaffirmation when a patent or patent application becomes known after initial approval of the standard). This assurance shall be a letter that is in the form of either:

a) A general disclaimer to the effect that the patentee will not enforce any of its present or future patent(s) whose use would be required to implement either mandatory or optional potions of the proposed IEEE standard against any person or entity complying with the standard; or

b) A statement that a license for such implementation will be made available without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination.

This assurance shall apply, at a minimum, from the date of the standard's approval to the date of the standard's withdrawal and is irrevocable during that period.

INAPPROPRIATE TOPICS FOR IEEE TASK FORCE MEETINGS

- **Don't discuss licensing terms or conditions**
- **Don't discuss product pricing, territorial restrictions or market share**
- **Don't discuss ongoing litigation or threatened litigation**
- **Don't be silent if inappropriate topics are discussed - do formally object.**

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit http://standards.ieee.org/board/pat/index.html

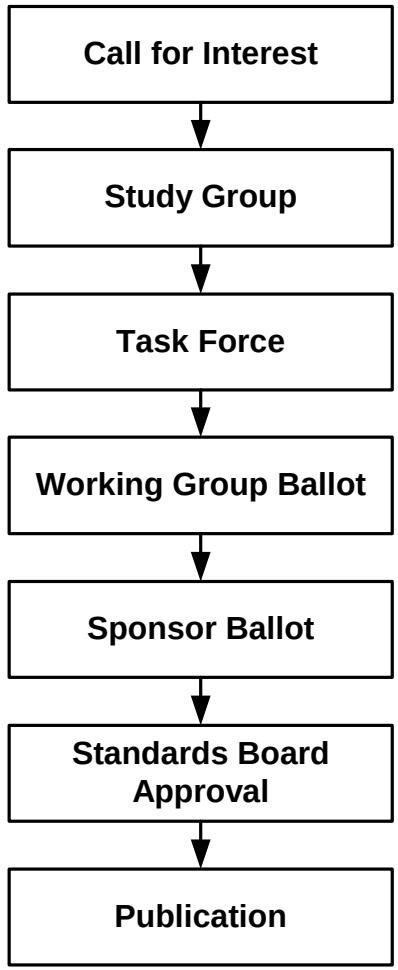
OBJECTIVES

- **Use the existing 10GBASE-R PCS**
- **Support a BER of better than or equal to 10^{-12}**
- **Support fiber media selected from IEC 60793-2-10: 2003**

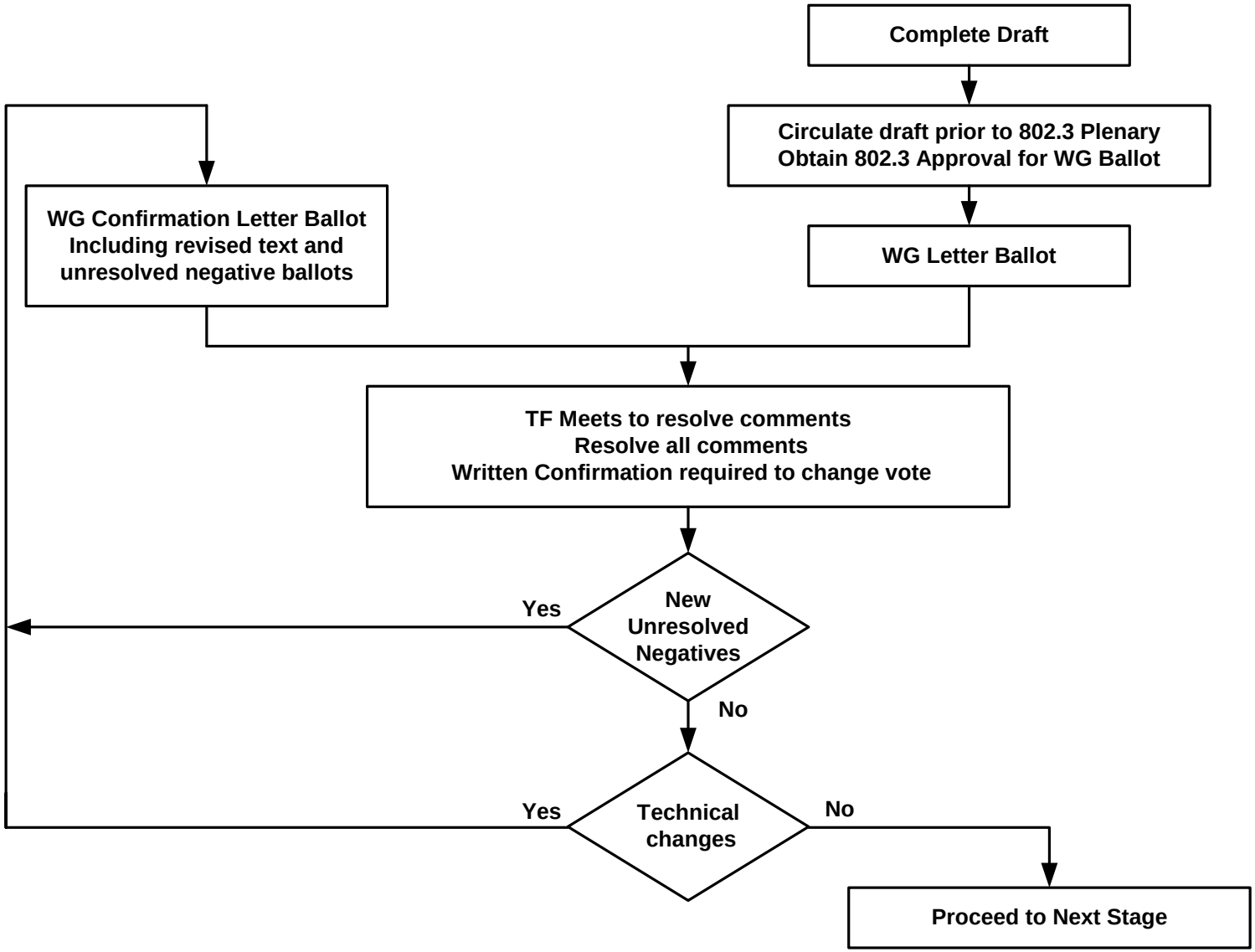
- 62.5µm
  - 160/500 MHz-km (A1b, 60793-2-10:2003)
  - 200/500 MHz-km (A1b, 60793-2-10:2003)
- 50µm
  - 500/500 MHz-km (A1a.1, 60793-2-10:2003)
  - 400/400 MHz-km (A1a.1, 60793-2-10:2003)
  - 1500/500 MHz-km (A1a.2, 60793-2-10:2003)

- **Provide a Physical Layer specification which supports link distances of:**
  - at least 220m on installed 500MHz.km multimode fiber
  - at least 300m on selected multimode fiber

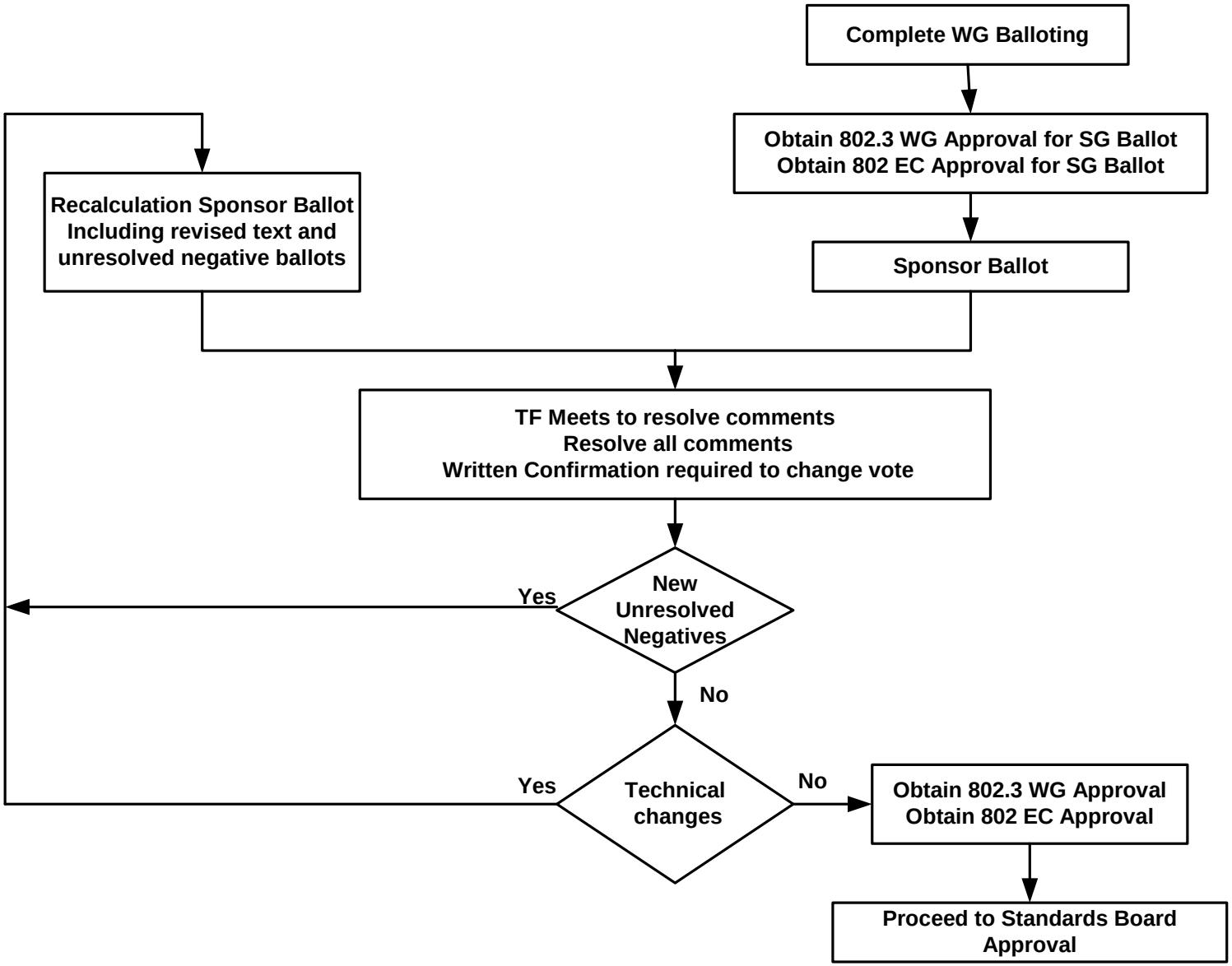
OVERALL PROJECT PROCESS



WORKING GROUP BALLOT



SPONSOR GROUP BALLOT PROCESS



Meeting Dates & Places

- D2.0 Comment resolution: Austin 17th - 19th May
  Chaired by Jim McVey
  THANK YOU JIM!
- D2.0 Comment resolution: London 14th –16th June
- D2.1 Recirculation: 27th June – 12th July
- D2.1 Comment Resolution:
  San Francisco 19th - 21st July.

GOALS FOR THIS MEETING

- **The purpose of the meeting is comment resolution on Draft P802.3/D2.1.**
- **Big Ticket Issues are as follows:**
  - TWDP
  - ISI stressor values
  - Range for OM2 fiber and associated models or experimental verification.
- **TF approval for Confirmation ballot.**
- **Amend project timeline to align correctly with likely timing of completion of WG Ballot process.**

COMMENT REVIEW IN WG BALLOT

• All comments must be considered and a response written for them with agreed changes implemented in the draft before a recirculation/confirmation ballot can occur.

• To change the document the taskforce must approve a response by acclamation or a 75% vote.

• **Our draft has approved status:** If there is no proof or consensus that the draft is broken and no consensus for the suggested change the response will be along the lines: "Reject: A statement that the current draft is complete and ensures interoperation in respect to the comment. Then a pointer to some previous input to the committee supporting the statement. A statement that the data and/or comment was insufficient to prove to the group that the draft required the suggested change. An optional statement of what type of data might convince the group it needs to make the change in a future recirculation."

• This will avoid using "Unresolved due to lack of consensus".

• All responses should be respectful and provide thoughtful justification for the response <u>especially</u> if other than accept.

• Response generation can be delegated to subgroups or even individuals, but the customary practice is to only do this delegation by a motion of the group, typically at the end when time is running out.

• The comment database is the master minutes for comment resolution – no need for minutes on comment resolution.

Working Group and Confirmation Ballot Results

	D2.0 Final	D2.1 Initial
Voters	206	206
Approve	72	86
Disapprove	22	22
Abstain	9	4
Returns	103	112
Comments T	85	25
Comments TR	107	44
Comments E	209	64
Comments ER	57	5
Comments	458	138
RespRate	**50.00%**	**54.37%**
AppRate	**76.60%**	**79.63%**
AbsRate	**8.74%**	**3.57%**

Thank you for voting and submitting comments.

Status of 10GBASE-LRM Project Timeline.

• As normal for IEEE 802.3 standards projects in Working Group Ballot there are a few technical **details** that have resulted in a slip of the 10GBASE-LRM timeline as follows:

- TP2, TWDP.
- TP3, ISI stressors for Comprehensive stressed receiver test(CSRT).
- Range on OM2 fiber
- Validation of conformance test methods.

• If the group is pragmatic about how it chooses to resolve comments and improve the draft the slip can be contained to a period of 4 months.

• Contrary to the Fear Uncertainty and Doubt (FUD) being spread by some this is not a disastrous situation for 10GBASE-LRM. In fact, it is a perfectly normal and expected situation for the project at this stage of standardization.

• But the group must act with urgency and pragmatism to minimize the slip.

Status of the 10GBASE-LRM Project Draft.

- D2.1 has “Approved” status.
- The draft is technically complete.
- But, Taskforce members have expressed their desire to do research investigations to respond to the open TR’s and unresolved comments to improve the draft.
- The time taken to do the research and agree the technical improvements to the draft will result in a slip of 3 - 4 months of the 10GBASE-LRM standards project.

Status of the 10GBASE-LRM Project Draft.

• The desire is to ensure that the TWDP specification, stressor values for CSRT and associated tests are set to ensure **the first truly high yielding, low cost, low power, 10Gb/s PMD specification per the project PAR.**

• The concern is that the current TWDP and CSRT stressor values are far too difficult and will not result in success for 10GBASE-LRM. There is also a concern that TWDP should use a short rather than a long equalizer.

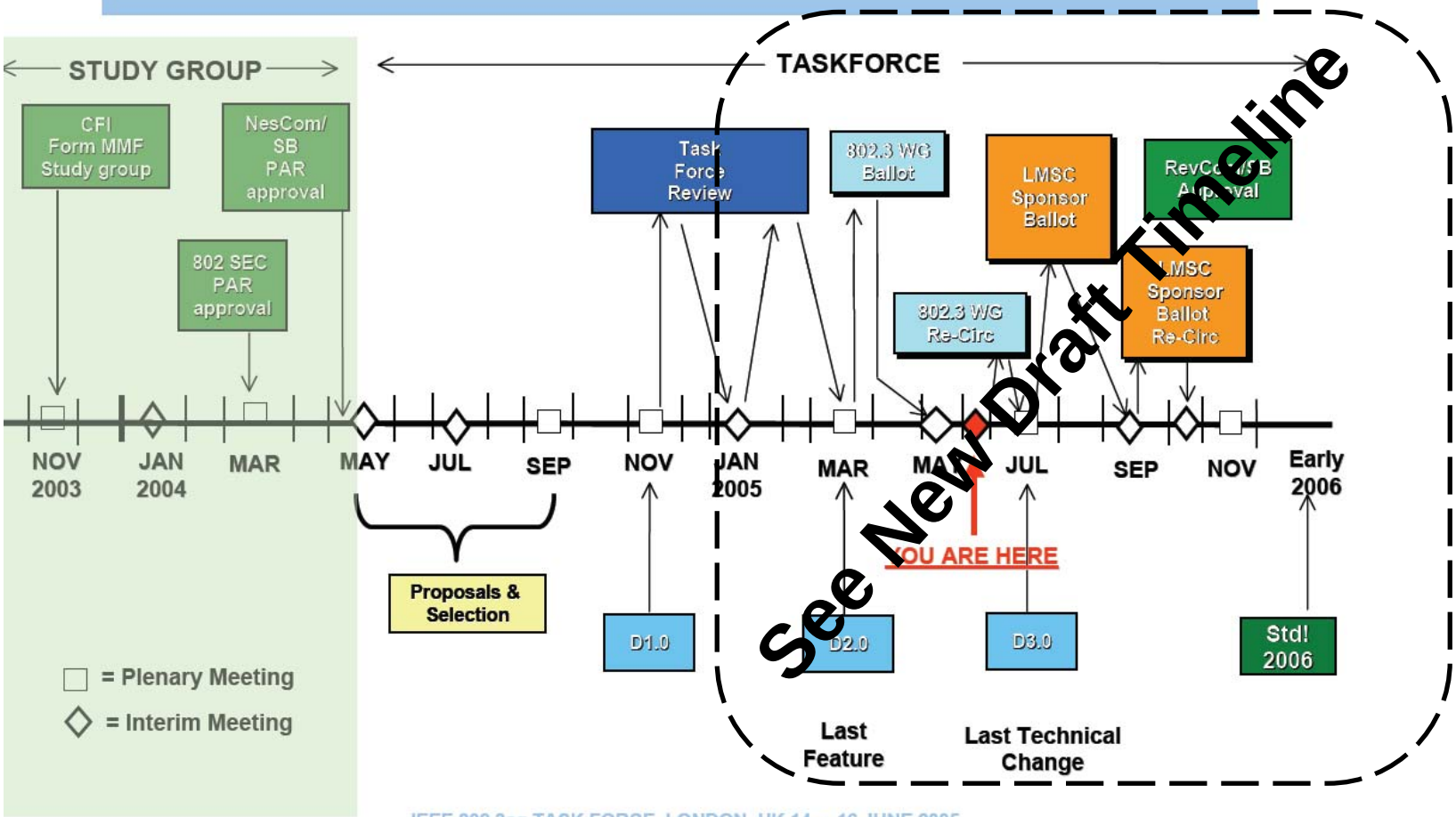
• TWDP and CSRT are caught-up in an irresolvable debate on percentile coverage at the stated operating range on the installed base of fiber links.

• Based on comments submitted technical changes to the draft are expected. **This in itself forces at least one more recirculation.**

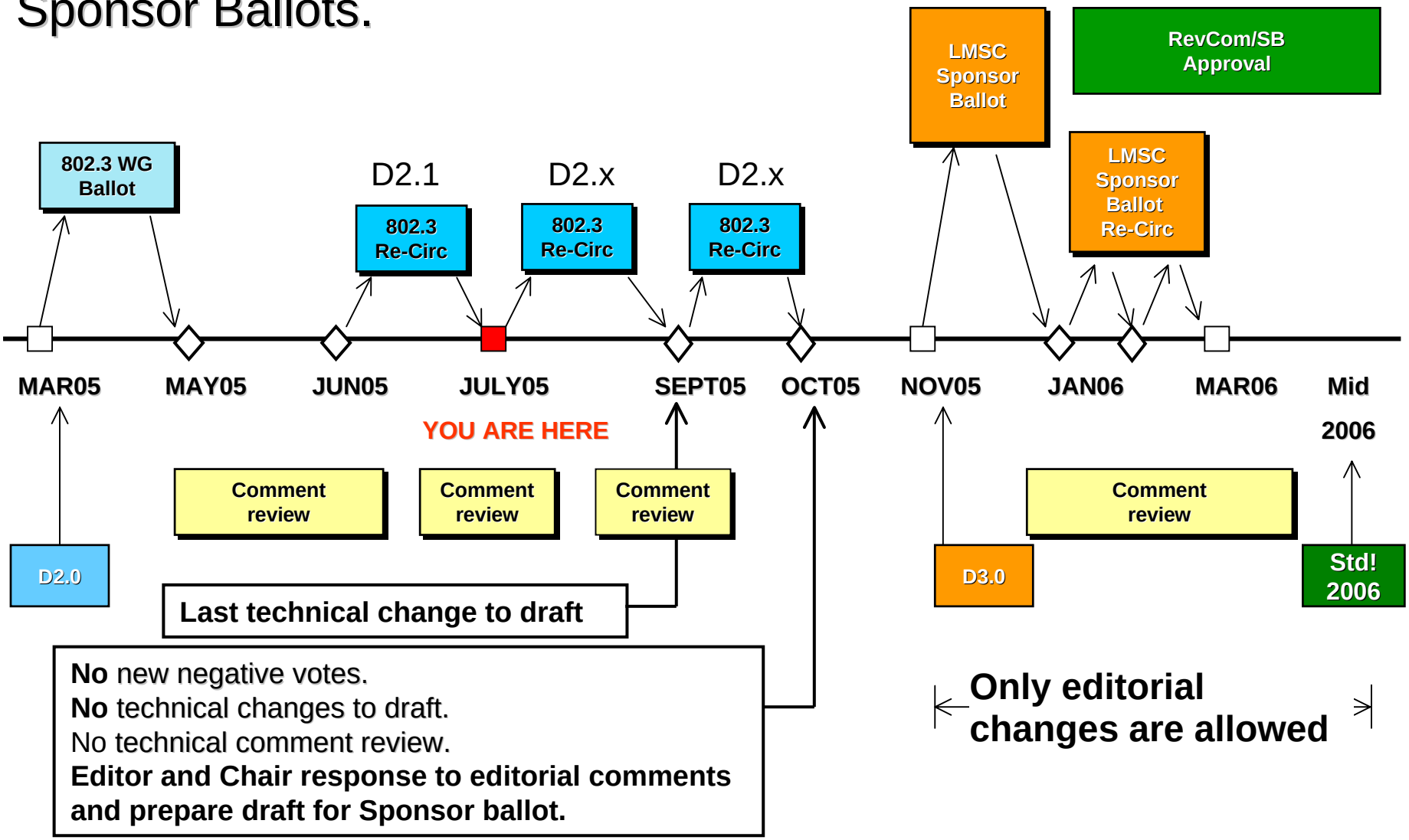
• An interoperation test, involving three independent implementations, is required before Sponsor Ballot opens (per a vote in the Taskforce).

The Timeline must be changed.

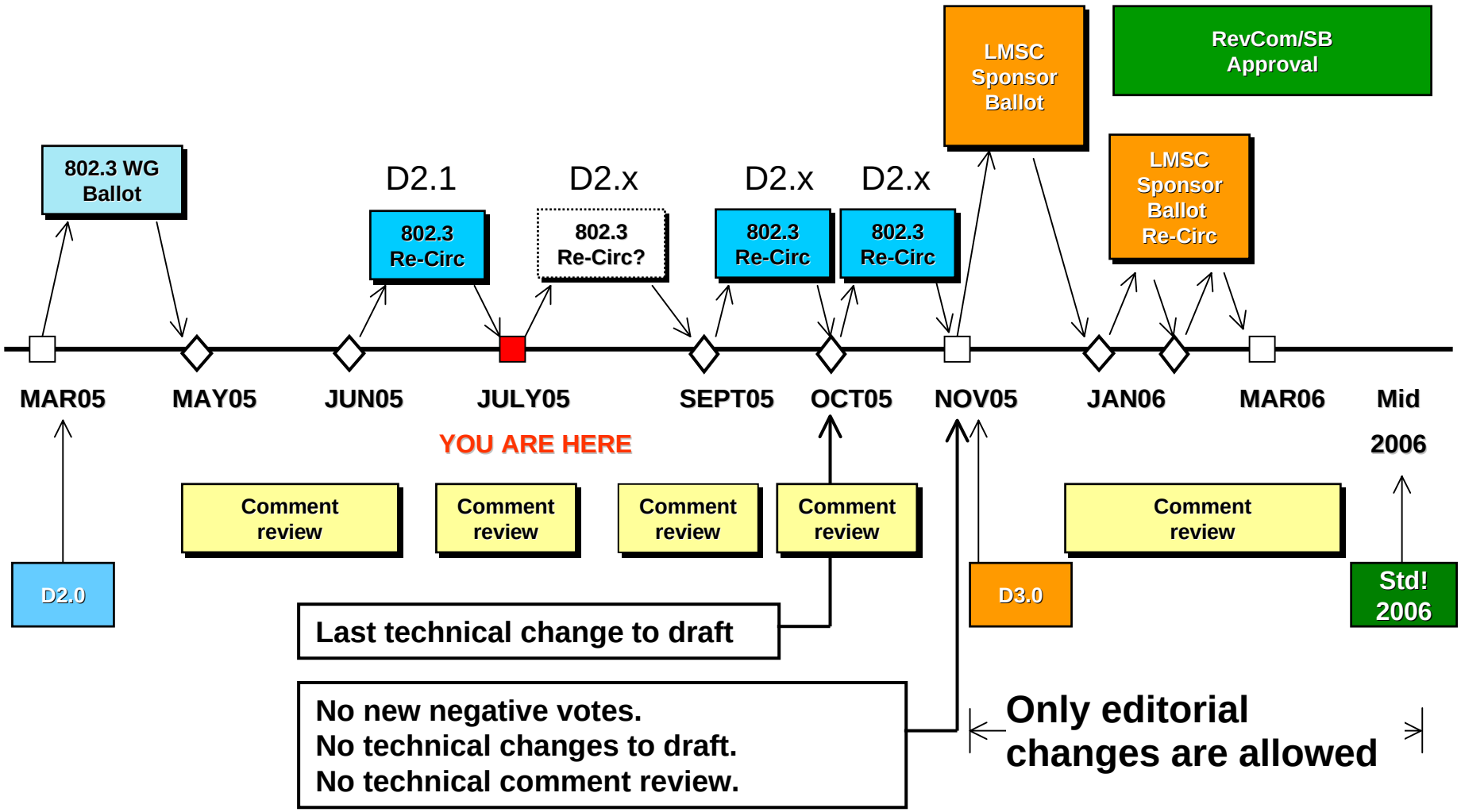
10GBASE-LRM TIMELINE



Draft Timeline 1: 10GBASE-LRM Working Group and Sponsor Ballots.



Draft Timeline 2: 10GBASE-LRM Working Group and Sponsor Ballots.

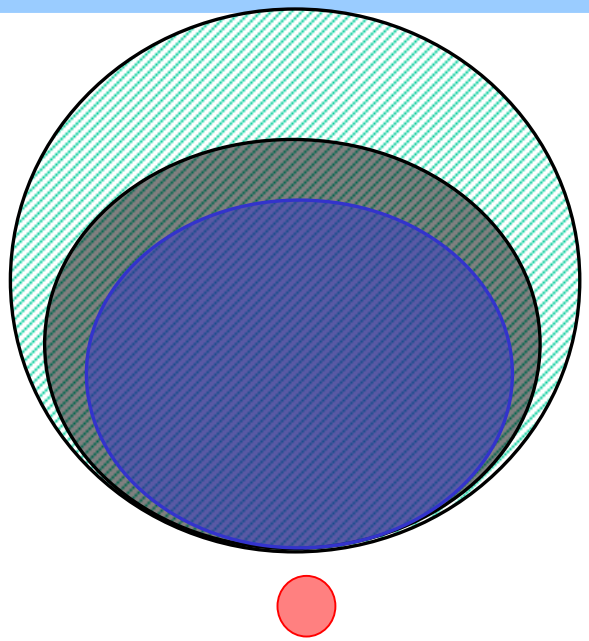


- Recognizes the anticipated difficulty of completing the **fine details** of the specification.

Observations on TWDP Status

- There is consensus for keeping TWDP.
- There is consensus that the primary objective for TWDP is to protect the receiver from bad transmitters.
- It has been widely recognized that TWDP of D2.0/2.1 works.

Observations on Stressor Sets: Illustration of the number of people that agree a Stressor Set can be implemented now.



Average effective PIE_D of 4.0 dB

Average effective PIE_D of 4.25 dB

Average effective PIE_D of 4.5 dB

Average effective PIE_D of 5 dB

- **The higher PIE_D value stressor sets have been proposed based on theory and vague promises of future improvements in silicon for the EDC function.**
- **The lowest PIE_D value stressor set is based on multiple validations with real hardware.**
- **Everyone agrees that 4.0 dB is achievable now.**
- **No one agrees 5 dB is achievable.**

David's proposed actions

- Set the specification based on what, from a conservative few point, can really be implemented **today**.
- Agree a stressor set at the 4 dB effective PIE-D level.
  This will enable all existing EDC silicon to be used for interoperation tests.
- Keep TWDP per D2.0 and just make small changes to tidy it up.
- When we've agreed the above construct realistic guidance on the link coverage.
- Between July and September focus on gathering experimental data to verify test procedures and specification values.
- Try for timeline 1 but to be safe ask permission for timeline 2.

10GBASE-LRM				
uesday 19 July 2005				
Presenter	**Topic**	**Length**	**Start**	**Finish**
Chair	**Opening Session**	00:40:00	08:00	08:40
	Welcome and Introduction			
	Appoint Recording Secretary			
	Goals for the Meeting			
	Reflector and Web			
	Ground Rules			
	Project Status and Timeline			
	Approve Minutes			
	Reports			
Nick Weiner	**Editors Report**	00:20:00	8:40 AM	9:00 AM
Tom Lindsay	**TP2 Conference Call Summary**	00:20:00	9:00 AM	9:20 AM
	General			
Michael Steb et	**TP2 Encircled Flux Measurement Results.**	00:20:00	9:20 AM	9:40 AM
	Break	00:20:00	9:40 AM	10:00 AM
Ernie Bergmann	**RE: Placement of Noise Source After Filtering.**	00:20:00	10:00 AM	10:20 AM
John Abbott	**LRM OM2 Monte Carlo modeling set 50um Beta 2.2 set for review/discussion.**	00:20:00	10:20 AM	10:40 AM
Nick Weiner	**Comment Review**	01:05:00	10:40 AM	11:45 AM
	Lunch	01:30:00	11:45 AM	1:15 PM
Nick Weiner	**Comment Review**	01:30:00	1:15 PM	2:45 PM
	Break	00:30:00	2:45 PM	3:15 PM
Nick Weiner	**Comment Review**	02:30:00	3:15 PM	5:45 PM

10GBASE-LRM				
nesday 20 May 2005				
Presenter	**Topic**	**Length**	**Start**	**Finish**
Nick Weiner	**Comment Review**	02:00:00	08:00	10:00 AM
	Break	00:20:00	10:00 AM	10:20 AM
Nick Weiner	**Comment Review**	01:40:00	10:20 AM	12:00 PM
	Lunch	01:30:00	12:00 PM	1:30 PM
Nick Weiner	**Comment Review**	01:30:00	1:30 PM	3:00 PM
	Break	00:30:00	3:00 PM	3:30 PM
Nick Weiner	**Comment Review**	02:30:00	3:30 PM	6:00 PM

10GBASE-LRM				
rsday 19 May 2005				
Presenter	**Topic**	**Length**	**Start**	**Finish**
Nick Weiner	**Comment Review**	02:00:00	08:00	10:00 AM
	Break	00:20:00	10:00 AM	10:20 AM
Chair	**Closing Session**	01:30:00	10:20 AM	11:50 AM
	Meeting Adjourned			11:50 AM