Cl **00** *SC* **0** *P* **0** *L* **0** # 1

COORDINATION, EDITORIAL

Comment Type **GR** *Comment Status* **A**

At the time of submission to the IEEE-SASB, or just prior to publication, you will need to supply email address for each member of the Working Group that worked on this standard. This will ensure that all members of the Working Group receive a complimentary PDF of the published standard.

SuggestedRemedy

Response *Response Status* **W**

ACCEPT.

Editor to request this info from Bob G.

Cl **68** *SC* **68.5.3** *P* **35** *L* **27** # 2

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comment 23 (formerly 88): 'The Symmetrical tap weight values would benefit from further work. ... Statistics of two peak cases have not been presented.' We know that with the launches per the draft, split pulses are rare. It is likely that pulses split as far in time as the test stressor are in turn rarer.

SuggestedRemedy

I'll try to show stats of pulse splitting amount at the meeting. Consider split-symmetric candidate 1 from http://ieee802.org/3/aq/public/oct05/ewen_1_1005.pdf. Or much better, remove the split-symmetric test.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.3** *P* **35** *L* **27** # 3

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

I am concerned that this spec excludes integrated CMOS equalizers. In the medium term, implementers will wish to move from stand-alone equalizers in very fast low noise SiGe to equalizers integrated into much less well controlled CMOS XAUI chips or port ASICs. 10GBASE-T had a similar issue: the CMOS was too power hungry. For us, it's not 'too hot', it's 'won't pass the spec'. Some test cases can be just too hard/noisy to be equalized by reasonable CMOS implementations. D3.0 comment 23 (formerly 88): 'The Symmetrical tap weight values would benefit from further work.'

SuggestedRemedy

Remove the split-symmetric test (Further reasons given in other comments). Substantially reduce the noise loading (1/Qsq). Satisfy ourselves that this spec really is viable, with further input from implementers.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.3** *P* **35** *L* **27** # 4

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comment 23 (formerly 88): 'The Symmetrical tap weight values would benefit from further work.' When we chose this stressor it was intended as the easiest of the three, by a small amount. Because the calculations did not include the effect of transmitter noise, while the CSRS test has significant deliberate transmitter noise, it turns out that it is the hardest of the three. As only a small proportion of relevant impulses are split, this does little for coverage and encourages people to 'build to the test' not to what's useful to the customer. Also this strong sensitivity to noise makes for calibration inaccuracy.

SuggestedRemedy

Split-symmetric candidate 1 from http://ieee802.org/3/aq/public/oct05/ewen_1_1005.pdf is a bit better behaved with transmitter noise. Or much better, remove the split-symmetric test.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.3** *P* **35** *L* **20** # 5

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comments 24 (formerly 62) on RIN specification and 43 (formerly 82) on transmitter signal to noise ratio for CSRS. We have overlooked the RIN factor in calculating Qsq: effectively, we have assumed a factor of 1 while Gigabit and 10 Gigabit Ethernet assumed 0.7 or 0.55. Anyway, it is not feasible to make transmitters that are all at worst RIN.

SuggestedRemedy

I believe the Tx RIN spec is OK but the element of RIN in Qsq should be reduced to sqrt(0.7) or less vs. present values, for this effect.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.3** *P* **35** *L* **20** # 6

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comment 24 (formerly 62) on RIN specification and 43 on transmitter SNR for CSRS. We choose Qsq by calculating the effect of RIN and modal noise. Our estimate of modal noise is very pessimistic. Using the Monte Carlo technique we can calculate a reasonable upper estimate of modal noise, as we can for connector loss. We see the same very skewed distribution, where the great majority of cases have negligible modal noise, and on the other hand a tiny minority would be predicted to fail through modal noise even in a non-equalised link such as 1000BASE-L or 10GBASE-S. Per comment 29 (formerly 61) 'Straw poll 1: There is margin within the link budget.'

SuggestedRemedy

Reduce the element of modal noise in Qsq.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.3** *P* **35** *L* **20** # 7

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

Don't make the 802.3ae stressed eye mistake again! D3.0 comment 34 (formerly 109): 'This test is far too complicated to be readily done by most development labs'. and 43 on transmitter signal to noise ratio for CSRS. I agree that it is complicated. Also, this use of deliberate noise loading is new for an optical standard (there is something a bit like it with optical amplifiers) - and not yet proven in multiple labs. Getting the noise wrong, in amount or color, can lead to significant measurement errors or even error floors (it's the noise before the transversal filter that causes trouble rather than after). Giving more information about the noise, as in p47 line 51, helps with amount but not color, and still the test is over complicated. Calibrating the noise color would require a spectrum analyzer. In short, we are not likely to get agreement between customer and supplier with such an involved test. Maybe the industry would be better served by more consistent measurements without deliberate noise loading. This would correspond better to the usual case in service, where connector loss is small, modal noise is small, and RIN is several dB better than spec.

SuggestedRemedy

Remove the noise loading from CSRS. Don't reduce the sensitivity limits much because of this change - they are already low as compared with expected OMAs in service.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.3** *P* **35** *L* **27** # 8

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comment 34 (formerly 109): 'This test is far too complicated to be readily done by most development labs'. One item of little value is the split-symmetric stressor, because so few of the channels an equalizer would have to deal with are like this: they don't occur with OM3 and while they are reasonably common with OM1, center launch OR OM1, offset launch - with joint launch, almost every time one shows up, the other launch is better, and the equalizer doesn't have to deal with it. Further, in reality only a small fraction of split pulses would have a harmonic relation to the line rate. I expect smooth-symmetric channels would be more common, but if an equalizer can cope with our pre and post stressors, it should be OK with smooth sym of the same TWDP - we have considered adding this before and chose not to.

SuggestedRemedy

Remove the split-symmetric test.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5** *P* **31** *L* **37** # 9

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comment 70 (formerly 84) describes different kinds of 50 um fiber. It may help readers to know more about this: several grades of 50 um fiber have been sold where the 1300 nm bandwidth is better than the 850 nm bandwidth, and these fibers form part of the 'installed base'. For example, it will be of interest to some that 10GBASE-LRM should achieve 300 m on 400/1200 fiber, per our conservative methodology.

SuggestedRemedy

If such grades of fiber are of interest, give guidance, perhaps in a NOTE under this paragraph if we don't have precise enough information for the table: NOTE--A reasonable range for 400/1200 multimode fiber would be 300 m.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5** *P* **31** *L* **37** # 10

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comment 70 (formerly 84) and 117 (formerly 52) describe different kinds of 50 um fiber. If it is true that reject OM3 sold as OM2 is significantly worse than OM2, perhaps add a NOTE. On the other hand, is OM2 that special? Maybe we should just point out that MMF may vary.

SuggestedRemedy

Perhaps the readers should be warned with an informative NOTE--Users may wish to assure themselves of the characteristics of certain OM2 fiber for use at 1300 nm. While multimode fibers cover a wide distribution, this is further widened by different manufacturing strategies for OM2.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.3** *P* **35** *L* **27** # 11

DAWE, PIERS J G Individual

Comment Type **TR** *Comment Status* **X**

D3.0 comment 23 (formerly 88): 'The Symmetrical tap weight values would benefit from further work.' When John Ewen did his brilliant work, searching for stressors that are fair to different length equalizers, it was all done without the noise loading. Because the receiver performance with split-symmetric stressor is more affected by noise loading than the other stressors, it may be that this stressor is less fair than the others with noise loading.

SuggestedRemedy

As split-symmetric candidate 1 from http://ieee802.org/3/aq/public/oct05/ewen_1_1005.pdf is a bit better behaved with transmitter noise, consider changing to it. Or much better, remove the split-symmetric test.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.7.2** *P* **51** *L* **53** # 12

DAWE, PIERS J G Individual

Comment Type **T** *Comment Status* **X**

Given that some users with short links may prefer not to use offset launch patch cords, can we give guidance on when this is likely to succeed? In the proposed remedy, '50%' is a placeholder. (There are TRs objecting to dual launch of D3.0, although I am still in favor of dual launch).

SuggestedRemedy

In 68.7.2, insert after the first sentence of the NOTE: 'However, it is expected that for links less than 50% of the operating range given in table 68-2, either launch can be used at the user's choice.'

Proposed Response *Response Status* **O**

Cl **99** *SC* **99** *P* **3** *L* **32** # 13

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

The third column of the table below is to be...

SuggestedRemedy

The third and fourth column of the table below are to be...

Proposed Response *Response Status* **W**

Motion:

The 802.3aq comment resolution committee gives the editor discretion to resolve E comments on 802.3aq Draft 3.1.

Moved: Nick Weiner
Second: Sudeep Bhoja

On comment 13:
Editor to resolve together with Bob G and/or Michelle Turner and others, as appropriate.

Cl **99** *SC* **99** *P* **4** *L* **32** # 14

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

Shift+a

SuggestedRemedy

Shift-a

Proposed Response *Response Status* **W**

Editor to resolve together with Bob G and/or Michelle T and others, as appropriate

Cl **99** *SC* **99** *P* **7** *L* **13** # 15

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

Because about 3/4 of Part Five is physical layers and sublayers, we need something like the stricken text. However, a phrase like 'adds new' will become obsolete. I don't believe that before EFM, IEEE Std 802.3 format frames were not permitted (i.e. forbidden) in a subscriber access network.

SuggestedRemedy

Section Five specifies further physical layers and sublayers for operation from 512 kb/s to 1000 Mb/s, and defines services and protocol elements for use in a subscriber access network.

Proposed Response *Response Status* **W**

Editor to resolve together with Bob G and others, as appropriate

Cl **99** *SC* **99** *P* **9** *L* **7** # 16

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

Should the officers be listed here?

SuggestedRemedy

?

Proposed Response *Response Status* **W**

Editor to resolve together with Bob G and Michelle T and others, as appropriate.

Cl **45** *SC* **45.2.1.10.2** *P* **20** *L* **20** # 17

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

The descriptions of ability bits are not consistent (we didn't have time to discuss this in the last meeting). In the text, we have 'PMA/PMD is able to operate as 10GBASE-LRM' but 'PMA/PMD is able to support a 10GBASE-CX4 PMA/PMD type'. ''Support' is not precise (that's why we sometimes use it in objectives!). Nor accurate: 'The floor supports the table, the computer supports Linux, the modem supports PPP, PCS is able to support PRBS31 pattern testing...' This should be harmonized across .3ap, .3an, and in the next revision.

SuggestedRemedy

Change back to 'operate as 10GBASE-CX4.'

Proposed Response *Response Status* **W**

Editor will take advice from Bob G.

Cl **45** *SC* **45.2.3.11.5** *P* **21** *L* **37** # 18

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **D**

This should be 45.2.3.11.2, and existing 45.2.3.11.2 to 45.2.3.11.4 should become 45.2.3.11.3 to 45.2.3.11.5.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.13** *P* **22** *L* **1** # 19

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **D**

45.2.3.13

SuggestedRemedy

45.2.3.15

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.15.7** *P* **22** *L* **36** # 20

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **D**

Should be 45.2.3.15.1

SuggestedRemedy

... and existing subclauses 45.2.3.15.1 to 45.2.3.15.6 become 45.2.3.15.2 to 45.2.3.15.7

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.11.5** *P* **21** *L* **39** # 21

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **D**

It would be helpful to mention that only transmit side is involved (no equivalent receive side testing, no error counting registers) as this is a deviation from practice with other patterns.

SuggestedRemedy

Perhaps 'is able to support PRBS9 pattern testing of its transmitter'?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.15.7** *P* **22** *L* **38** # 22

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **D**

Consistency with other subclauses, need to know the reference number is a bit not a subclause.

SuggestedRemedy

Change 'testing (indicated by 3.32.3)' to 'testing advertised in bit 3.32.3'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

.. testing (indicated by bit 3.32.3) ..

Cl **45** *SC* **45.2.3.15.7** *P* **22** *L* **41** # 23

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

I'm not convinced by 'When bit 3.42.6 is set to zero the PCS shall not transmit PRBS9.' It's perfectly reasonable to transmit PRBS9, by feeding it into the PCS.

SuggestedRemedy

Copy an existing subclause? 'Setting bit 3.42.6 to a zero shall disable the PRBS9 test-pattern mode on the receive path of the PCS.' or 'When bit 3.42.6 is set to a zero, pattern testing is disabled on the transmit path.'

Proposed Response *Response Status* **W**

When bit 3.42.6 is set to zero the PCS shall not transmit PRBS9.

Cl **45** *SC* **45.2.3.15.7** *P* **22** *L* **42** # 24

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

We need some reference from the Clause 45 PRBS9 material to Clause 49.

SuggestedRemedy

Suggest copy other subclauses, and insert just before last sentence: 'The behavior of the PCS when in PRBS9 test-pattern mode is specified in Clause 49.'.

Proposed Response *Response Status* **O**

Cl **49** *SC* **49.2.2** *P* **25** *L* **17** # 25

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **D**

Do we need to qualify this sentence, because there is no PRBS9 receive side test pattern mode?

SuggestedRemedy

Perhaps insert '(if applicable)' after 'simultaneously'?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **49** *SC* **49.3.5** *P* **26** *L* **34** # 26

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **D**

Rows JT8 and JT9 should be underlined

SuggestedRemedy

per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **A** *SC* **A** *P* **27** *L* **8** # 27

DAWE, PIERS J G Individual

Comment Type **E** *Comment Status* **X**

In 802.3-2005, the bibliography is in alphanumeric order. Is this changing?

SuggestedRemedy

If not, this would be B46, (B46 and B47 would change numbers), and rubric would be 'Insert the following new entry into the bibliography, in alphanumeric order:'

Proposed Response *Response Status* **W**

Editor will consult Bob G. and Michelle T.

Cl **68** *SC* **68.6.1** *P* **37** *L* **1** # 28

DAWE, PIERS J G Individual

Comment Type **T** *Comment Status* **A**

Now that we have made the PRBS9 normative (if still optional), this 'should' is weak. On the other hand, I'm not demanding a 'shall'.

SuggestedRemedy

Change 'should be ' to 'is'.

Response *Response Status* **C**

ACCEPT.

Cl **68** *SC* **68.5** *P* **35** *L* **27** # 29

CUNNINGHAM, DAVID G Individual

Comment Type **TR** *Comment Status* **X**

This is a pile-on comment to comment D3.0 number 24.

The split symmetric stressor is a pathological and extremely unrealistic form of stress. This is made worse by the unrealistically large noise loading that is used for stress testing. Additionally, I have received feedback from many implementers that this test will severely penalise and will likely outlaw low latency, low power CMOS implementations including future highly integrated solutions.

It is also noted that the noise loading applied is not representative of a reasonable test configuration: the amount of modal noise assumed could only occur under rare combinations of launch and link connector configurations.

SuggestedRemedy

Remove the split symmetric stressor and reduce the noise loading for the remaining stressors by at least 6 dB electrical.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5** *P* **35** *L* **27** # 30

CUNNINGHAM, DAVID G Individual

Comment Type **TR** *Comment Status* **X**

This is a pile-on to D3.0 comment 34.

The stress test is too complex.

In particular the noise loading is bad for a few reasons. Firstly, the noise loading has been effectively dead reckoned by the committee. A slight slip and perfectly good implementations will be ruled out. It already appears that this may be happening as I have received feedback that CMOS implementations have difficulty with the split symmetric stressor especially with noise loading. Secondly, the noise loading complicates the test for example even if its level is correct its colour must be controlled too.

Also, Ethernet conformance test should check that an implementation is reasonable they should NOT be attempting to test worst-worst case corners as the current stress test seems to have been designed to do.

The split symmetric test with noise loading is pathological in all these respects.

Removal of the split symmetric stressor and noise loading would substantially simplify the stress testing.

SuggestedRemedy

Remove the split symmetric stressor.

Remove all noise loading from the stress tests by deleting the Q specification in table 68-5 and everywhere else in the draft.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.1** *P* **33** *L* **31** # 31

DUDEK, MICHAEL T Individual

Comment Type **TR** *Comment Status* **X**

This is a pile on comment to comment 113 to draft 3.0. In a straw poll recorded in the discussion on comment 29 to draft 3.0 it was agreed that there is margin within the link budget. (Agree 14, Disagree 1, Abstain 2). This margin should be used to reduce the cost of LRM implementations. One way to do this was suggested in comment 29. Another way which was suggested in comment 113 was to increase the TWDP value. A relaxation in this value would improve the yield of LR modules and could enable SFP+ form factor products by allowing somewhat more deterministic jitter in the Tx.

SuggestedRemedy

Change the Max value of TWDP in table 68-3 from 4.7dB to 4.9dB.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.6.11** *P* **49** *L* **12** # 32

BHOJA, SUDEEP Individual

Comment Type **TR** *Comment Status* **X**

Currently jitter is added only to a clean eye. Please see comments 45 & 66 on D3.0

SuggestedRemedy

Jitter needs to be included in the comp. stressed rx. To keep the test simple to implement a single value (375KHz,1UI) for the jitter is proposed.

Proposed Response *Response Status* **W**

RESPONSE TO DRAFT 3.0 COMMENT 45:

ACCEPT IN PRINCIPLE

The consensus of the committee is that:

1) The jitter specifications in Draft 3.0 are not sufficiently consistent between the tx and rx tests. With the values given below, the test signals in the rx jitter test have the same RMS value of uncorrelated jitter as a worst case compliant transmitter.

2) The appropriate balance between tx and rx specification is achieved by retaining the tx spec of Draft 3.0 and modifying the rx test.

3) Adding sinusoidal jitter to the comp. rx stressed test multiplies the number of test conditions excessively, and is not believed to be necessary.

4) The use of a pair of discrete test points is adequate.

5) Replacement test conditions for Table 68-5:
75kHz, 5UI (in line 36)
375kHz, 1UI (in line 38)

(These replace the present 40KHz, 5UI and 200KHz, 1UI)

For: 16
Against: 0:
Abstain: 9

RESPONSE TO DRAFT 3.0 COMMENT 66:

ACCEPT IN PRINCIPLE.

See response to comment 45. Also, the committee does not believe that convincing evidence has been presented that jitter stress needs to be included in the comp. stressed rx test to ensure link performance.

For: 16
Against: 2
Abstain: 6

Cl **00** *SC* **0** *P* *L* # 33

GHIASI, ALI Individual

Comment Type **TR** *Comment Status* **X**

This is pile on comment based on draft 3.0 comment #66. The proposed remedy provided does not resolve or address comprehensive jitter tolerance.

SuggestedRemedy

Propose to accept remedy as provided in comment number 66 against draft 3.0.

Proposed Response *Response Status* **W**

RESPONSE TO DRAFT 3.0 COMMENT 66:

ACCEPT IN PRINCIPLE.

See response to comment 45. Also, the committee does not believe that convincing evidence has been presented that jitter stress needs to be included in the comp. stressed rx test to ensure link performance.

For: 16
Against: 2
Abstain: 6

Cl **68** *SC* **68.5.3.1** *P* **33** *L* **31** # 34

Inano, Shigeru

Comment Type **T** *Comment Status* **X**

Sumitomo has been reviewing D3.1 of 802.3aq (LRM) and re-circulated comments. Internal testing and analysis has shown that the TWDP limit must be increased for acceptable module yields and costs. Therefore, Sumitomo would like to pile-on to comment #113 and #121.

SuggestedRemedy

We recommend that the TWDP limit be increased to 5.2 dB.

Proposed Response *Response Status* **W**

RESPONSE TO DRAFT 3.0 COMMENT 113:

REJECT.

Straw poll (Chicago rules)

4.2 dB - 3
4.6 dB - 3
4.7 dB (current value) - 16
5 dB - 7
5.2 dB - 3

The consensus within the committee is that the present value of 4.7dB represents the correct trade-off between transmitter yield and link performance considerations.

The consesus of the committee is also to agree with the budget presented in lindsay_1_1105 indicating that there remains unallocated link budget margin, with this tx spec.

Yes: 14
No: 4
Abstain: 2

RESPONSE TO DRAFT 3.0 COMMENT 121:

REJECT.

See response to comment 113.

For: 13
Against: 5
Abstain: 1

The consensus within the committee is that the present value of 4.7dB represents the correct trade-off between transmitter yield and link performance considerations.

The committee has not been convinced that the link performance can be assured with this change.

For: 20
Against: 0
Abstain: 1

Cl **68** *SC* **68.5.1** *P* **33** *L* **16** # 35

LINDSAY, THOMAS A Individual

Comment Type **TR** *Comment Status* **X**

This is a pile-on to comment 29 from D3.0. I feel that a transmitter with better waveform properties should be rewarded with being able to reduce its OMA by up to 1 dB. This type of allowance is done in LR. This can reduce power, EMI, etc. and help enable alternative laser sources.

SuggestedRemedy

o Change Value in line 16 to -5.5 dB. o Add a new line below line 16: "Launch power in OMA(b) min = -9.2+TWDP. o In Table 68-4, change Lowest power in OMA min to -7.4 dBm. o Modify Figure 68-5 (Figure will be available separate from MyBallot).

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.11.15** *P* **21** *L* **37** # 36

LINDSAY, THOMAS A Individual

Comment Type **T** *Comment Status* **A**

Mike McConnell suggested that I number (insert) the new PRBS9 paragraph as 45.2.3.11.2 and re-number the previous paragraphs 45.2.3.11.2-4 up to 45.2.3.11.3-5. This fits with the previous format, but I did not do it as I was reluctant to re-number existing clauses. However, I raise it here to the committee for consideration.

SuggestedRemedy

Insert the new PRBS9 paragraph as 45.2.3.11.2 and re-number the other/previous paragraphs 45.2.3.11.2-4 up to 45.2.3.11.3-5.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See response to comment 43

Cl **45** *SC* **45.2.3.15.7** *P* **22** *L* **37** # 37

LINDSAY, THOMAS A Individual

Comment Type **T** *Comment Status* **A**

Mike McConnell suggested that I number (insert) this new paragraph as 45.2.3.15.1 and re-number the previous paragraphs 45.2.3.15.1-6 up to 45.2.3.15.2-7. This fits with the previous format, but I did not do it as I was reluctant to re-number existing clauses. However, I raise it here to the committee for consideration.

SuggestedRemedy

Insert the new PRBS9 paragraph as 45.2.3.15.1 and re-number the previous paragraphs 45.2.3.15.1-6 up to 45.2.3.15.2-7.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See response to comment 43

Cl **68** *SC* **68.5.1** *P* **33** *L* **31** # 38

LINDSAY, THOMAS A Individual

Comment Type **TR** *Comment Status* **X**

This is pile-on to comment 121 from D3.0. I still believe TWDP should be increased. Polls in the previous ballot showed belief that there is residual budget and we should use it to increase yields and other options.

SuggestedRemedy

Increase the TWDP limit to 5 dB.

Proposed Response *Response Status* **O**

Cl **68** *SC* **68.5.1** *P* **33** *L* **31** # 39

EWEN, JOHN F Individual

Comment Type **TR** *Comment Status* **X**

This comment is not directed towards a change in Draft 3.1, but is in regard to comment #113 by T. Lindsay on the initial ballot. In the response to comment #113 it was noted that there was no consensus to change the TWDP value; however there was consensus that link margin is available. Any margin that exists should be used to relax the current specifications.

SuggestedRemedy

This issue has been debated at length without achieving a consensus to change the draft. I don't have a specific proposal to put forward at this time.

Proposed Response *Response Status* **O**

Cl **44** *SC* **44.3** *P* **15** *L* **3** # 40

GROW, ROBERT M Individual

Comment Type **ER** *Comment Status* **A**

Table numbers are hyphenated (emdashed).

SuggestedRemedy

Change Table 44.2 to Table 44-3.

Response *Response Status* **U**

ACCEPT.

Cl **45** *SC* **45.2.1.10** *P* **20** *L* **27** # 41

GROW, ROBERT M Individual

Comment Type **GR** *Comment Status* **A**

Improve editor's note, I can't understand what it is saying about P802.3an. Is the base text from 802.3an, or is this redundant with a change also in 802.3an and should only be included in the first amendment published?

SuggestedRemedy

See comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Revised text for editor's note:

Editor's Note: (to be removed prior to publication) Paragraph 45.2.1.10.2 is also included as new text by P802.3an. The change instruction here, regarding 45.2.1.10.2, will become redundant if P802.3an is published before P802.3aq.

Cl **45** *SC* **45.2.3.13** *P* **22** *L* **1** # 42

GROW, ROBERT M Individual

Comment Type **ER** *Comment Status* **A**

Incorrect subclause number

SuggestedRemedy

Change to 45.2.3.15

Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.3.15.7** *P* **22** *L* **37** # 43

GROW, ROBERT M Individual

Comment Type **E** *Comment Status* **A**

This places new text out of sequence with bit definitions.

SuggestedRemedy

Should be insert new 45.2.3.15.1 and renumber as required.

Response *Response Status* **C**

ACCEPT.

Cl **49** *SC* **49.3.5** *P* **26** *L* **33** # 44

GROW, ROBERT M Individual

Comment Type **ER** *Comment Status* **A**

inserted rows are not underscored.

SuggestedRemedy

See comment

Response *Response Status* **W**

ACCEPT.