*Cl* **00** *SC* **0** *P* **85** *L* **48** # 19

Schmitt, Matt — CableLabs

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

Is it standard practice in 802.3 to use a dash "--" to designate bullets in a list? It looks odd, and shows up in multiple places (the first being on page 85 in 153.2.3.2.4, line 48).

*SuggestedRemedy*

Replace with dotted bullets, if permissible under 802.3 style guidelines.

*Proposed Response* *Response Status* **O**

*Cl* **1** *SC* **1.4** *P* **22** *L* **20** # 47

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **T** *Comment Status* **D**

DWDM System is not defined

*SuggestedRemedy*

Add definition - DWDM System - An aggregate of DWDM links over either a single optical fiber or a single optical fiber per direction.

*Proposed Response* *Response Status* **O**

*Cl* **45** *SC* **45.2.1.133b** *P* **27** *L* **18** # 38

Nicholl, Gary — Cisco

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

This sectuoin talks about "Tx optical frequency index" but referes to Table 154-6 which uses the term "Channel Index number"

*SuggestedRemedy*

Propose using consistent terminologt between Clause 45 and Clause 154.

*Proposed Response* *Response Status* **O**

*Cl* **45** *SC* **45.2.1.186** *P* **45** *L* **24** # 14

Maniloff, Eric — Ciena

*Comment Type* **T** *Comment Status* **D**

SC-FEC needs counters defined to allow monitoring pre-FEC BER. Counters for corrected bits (pre-Fec bit-errors) and total bits would provide this.

*SuggestedRemedy*

Add 64 bit counters for these

*Proposed Response* *Response Status* **O**

*Cl* **45** *SC* **45.2.1.186ab** *P* **36** *L* **21** # 26

Trowbridge, Steve — Nokia

*Comment Type* **TR** *Comment Status* **D**

Clause 152.6.6 indicates that FEC_optional_states is always set to true. Note that this was a bug fix that was only made optional to avoid making implementations prior to the maintenance request non-compliant. Since Inverse RS-FEC is new, these states should not be optional.

*SuggestedRemedy*

Remove "0 = RS-FEC does not support optional states in Figure 91–8"

*Proposed Response* *Response Status* **O**

*Cl* **45** *SC* **45.2.1.186ab** *P* **37** *L* **25** # 27

Trowbridge, Steve — Nokia

*Comment Type* **TR** *Comment Status* **D**

Clause 152.6.6 indicates that FEC_optional_states is always set to true. Note that this was a bug fix that was only made optional to avoid making implementations prior to the maintenance request non-compliant. Since Inverse RS-FEC is new, these states should not be optional.

*SuggestedRemedy*

Remove "When read as a zero, bit 1.2201.7 indicates that the optional states are not implemented."

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.1.3** *P* **46** *L* **7** # 39

Nicholl, Gary — Cisco

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

Shouldn't the editing instruction and associated text reference IEEE Std 802.3cu as well as IEEE Std 802.3cd. 802.3cu also made changes to item h on the list.

*SuggestedRemedy*

Change the editing instruction from "as changed by IEEE Std 802.3cd-2018" to "as changed by IEEE Std 802.3cd-2018" to "as changed by IEEE Std 802.3cd-2018 and IEEE Std 802.3cu-20xx" and modify the text to inorporate the changes made by 802.3cu

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.1.4** *P* **47** *L* **19** # 40

Nicholl, Gary — Cisco

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

Is the sentence beginning with "Some 100GBASE-R Physical …." missing a comma after Clause 91 abnd Clause 153 ?

*SuggestedRemedy*

Add missing commas.

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.1.4** *P* **47** *L* **30** # 53

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **T** *Comment Status* **D**

Based on proposed modification of 100GBASE-ZR description, add a definition for DWDM PHY.

*SuggestedRemedy*

Add definition - DWDM PHY - An Ethernet PHY that operates at a single wavelength on a defined frequency grid and is capable of running over a DWDM system

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.1.4** *P* **47** *L* **30** # 52

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

During discussion of terminology it was agreed to distinguish the PHYs as "DWDM PHYs" not just a regular PHY. This should e reflected in the description of 100GBASE-ZR. Additionally WDM lanes is terminology that has been used with WDM PHYs, which might cause some confusion.

*SuggestedRemedy*

Modify description (and definition in 1.4) to 100 Gb/s DWDM PHY using 100GBASE-R encoding over a single wavelength on a defined frequency grid and is capable of running over a DWDM system, with reach up to at least 80 km (see Clause 154)

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.1.5** *P* **48** *L* **3** # 28

Trowbridge, Steve — Nokia

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

This editing instruction seems not entirely consistent with prior projects. IEEE Std 802.3cd has added a Table 80-4a (which presumably gets merged into Table 80-4 at the next revision) with the 100GBASE-SR2 and 100GBASE-DR PHY types. P802.3cu Draft 1.0 shows adding 100GBASE-FR1 and 100GBASE-LR1 to P802.3cd Table 80-4a rather than to Table 80-4 itself. As a single-lane PHY, does this belong in Table 80-4a rather than Table 80-4, or alternatively, should a new Table 80-4b be created for this new different PHY type?

*SuggestedRemedy*

Either add 100GBASE-ZR to Table 80-4a from 802.3cd or to a new Table 80-4b

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.1.5** *P* **48** *L* **6** # 41

Nicholl, Gary — Cisco

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

Should the new PMD be inlcuded in Table 80-4, Table 80-4a or a new Table ?

*SuggestedRemedy*

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.2.3** *P* **48** *L* **47** # 42

Nicholl, Gary — Cisco

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

Shouldn't the editing instruction be updated to reflect the changes made in 802.3cu D1p0 ?

*SuggestedRemedy*

Change editing instruction from "as changed by IEEE Std 802.3cd-2018" to "as changed by IEEE Std 802.3cd-2018 and modified by IEEE Std 802.3cu-20xx" . Update the text to reflect the changes made by IEEE Std 802.3cu-20xx.

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.4** *P* **51** *L* **3** # 43

Nicholl, Gary — Cisco

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

Table 80-3 does not show the new 100G PMDs added by IEEE Std 802.3cu-20xx.

*SuggestedRemedy*

Suggest changing the editing instruction to only show the new rows that are being inserted , as was done in IEEE Std 802.3cu-20xx

*Proposed Response* *Response Status* **O**

*Cl* **80** *SC* **80.5** *P* **53** *L* **1** # 29

Trowbridge, Steve — Nokia

*Comment Type* **T** *Comment Status* **D**

Since the Inverse RS-FEC and SC-FEC sub-layers remove all prior skew and start a fresh skew budget, the only real question to be answered regarding whether we need to establish new skew limits for this interface is if the skew opportunity between SP3 and SP4 (which could only occur between the two streams of DQPSK symbols on the two polarizations) could exceed the 80ns of skew or 2.4ns of skew variation already included in clause 80.5.

*SuggestedRemedy*

Add to editor's note that this depends on whether the maximum skew between streams of DPQPSK symbols on the two orthogonal polarizations can experience more than 80ns of skew or 2.4ns of skew variations across the black link.

*Proposed Response* *Response Status* **O**

*Cl* **119** *SC* **119.2** *P* **57** *L* **1** # 46

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **TR** *Comment Status* **D**

While currently in scope of P802.3ct, if the proposed modification of P802.3ct PAR receives necessary approvals, modifications to 400GBASE-R would no longer be in scope of 802.3ct, but would be part of the new proposed P802.3cw

*SuggestedRemedy*

Delete all proposed changes to 119

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.1** *P* **58** *L* **58** # 55

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **T** *Comment Status* **D**

The scope statement is insufficent -
The Inverse RS-FEC sublayer specifies a Reed-Solomon Forward Error Correction (RS-FEC) sublayer for
100GBASE-R PHYs. This sublayer is used in cases where the Reed-Solomon FEC specified in Clause 91 is
used across a chip-to-chip or chip-to-module interface and the 100GBASE-ZR FEC specified in Clause 153
is used between the PMD sublayers.

*SuggestedRemedy*

add at end of sentence - "of two connected 100GBASE-ZR PHYs.

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.1.2** *P* **59** *L* **19** # 50

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **TR** *Comment Status* **D**

There are now two versions of 100G PMAs - 100GBASE-R and 100GBASE-Z. Use of generic "PMA" might cause confusion.

*SuggestedRemedy*

Update all layer diagrams in 802.3 where "PMA" represents 100GBASE-R PMA to "100GBASE-R PMA"

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.5** *P* **60** *L* **28** # 30

Trowbridge, Steve — Nokia

*Comment Type* **TR** *Comment Status* **D**

While it is specified elsewhere, it is worth noting in the overview that another difference from Clause 91 is that the FEC optional states are mandatory here.

*SuggestedRemedy*

Add a sentence to this clause "The FEC optional states in clause 91 are mandatory for the Inverse FEC sublayer"

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.5.2.1** *P* **62** *L* **7** # 31

Trowbridge, Steve — Nokia

*Comment Type* **TR** *Comment Status* **D**

While it is specified elsewhere, it is worth noting where Figure 91-8 is referenced that the FEC optional states from that state diagram are mandatory in this context.

*SuggestedRemedy*

Add a sentence "Note that the FEC optional states, illustrated with the states within the dotted line of Figure 91-8, and Transition A, are mandatory in the context of the Inverse RS FEC sublayer."

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.5.2.3** *P* **62** *L* **27** # 1

Bruckman, Leon — Huawei

*Comment Type* **ER** *Comment Status* **D**

Typo: tx_scrambed

*SuggestedRemedy*

Replace with: tx_scrambled

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.5.2.5** *P* **62** *L* **37** # 2

Bruckman, Leon — Huawei

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

This section is exactly the same as 91.5.3.5. Better refer to that section than repeat the whole thing

*SuggestedRemedy*

Replace the text in the section with: See 91.5.3.5

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.5.3.2** *P* **66** *L* **17** # 32

Trowbridge, Steve — Nokia

*Comment Type* **TR** *Comment Status* **D**

Since there is no more skew opportunity between the RS FEC and Inverse RS FEC sublayer (generally at most a single C2M interface, no optical link) than there is between the PCS and the RS FEC sublayer, no reason not to use the same skew and skew variation limits as Clause 91 in the Tx direction.

*SuggestedRemedy*

Change the skew TBD to 49ns and the skew variation TBD to 400ps

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.5.3.5** *P* **66** *L* **40** # 3

Bruckman, Leon — Huawei

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

This section is exactly the same as 91.5.2.5. Better refer to that section than repeat the whole thing

*SuggestedRemedy*

Replace the text in the section with: See 91.5.2.5

*Proposed Response* *Response Status* **O**

*Cl* **152** *SC* **152.5.3.6** *P* **68** *L* **3** # 4

Bruckman, Leon Huawei

*Comment Type* **T** *Comment Status* **D**

Substituting the fixed bytes of the alignment markers corresponding to PCS lanes 17, 18, and 19 with the fixed bytes for the alignment marker corresponding to PCS lane 16 is required for EEE deep sleep mode that is not define for 100GBASE-ZR.

*SuggestedRemedy*

Remove requirement to substitute PCS lanes 17, 18, and 19 with the fixed bytes for the alignment marker corresponding to PCS lane 16

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153** *P* **81** *L* **1** # 45

Nicholl, Gary Cisco

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

Would it be better to have the 100GBASE-ZR PMA in a separate clause ? It doesn't look like it has to be in the same clause as 153 and cluld easily be separated. Having it in the same claue as the SC-FEC, adds another layer of sub-layer number for the SC-FEC description.

*SuggestedRemedy*

Consider pulling the 100GBASE-ZR PMA into a seoarate clause to simoplify the sub-clause numbering in Clause 153.

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.2** *P* **84** *L* **10** # 33

Trowbridge, Steve Nokia

*Comment Type* **TR** *Comment Status* **D**

In the Tx direction, there is exactly the same skew opportunity between the PCS or Inverse FEC sublayer and the SC-FEC sublayer as there is between the PCS and the RS FEC sublayer, so no reason to use any other value than Clause 91

*SuggestedRemedy*

Change the skew TBD to 49ns and the skew variation TBD to 400ps

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.4** *P* **84** *L* **37** # 18

Schmitt, Matt CableLabs

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

The text immediately following Figure 153-3 reads awkwardly: the first sentence reads as if it should end with a colon because it's setting up the list, whereas the second sentence with the colon is providing more context.

*SuggestedRemedy*

The two sentences should ideally be merged together, perhaps by making the second sentence a paranthetical comment on the first (in other words, putting all of the second sentence in parantheses), which then technically has the colon at the end of a single sentence.

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.4** *P* **84** *L* **45** # 5

Bruckman, Leon Huawei

*Comment Type* **ER** *Comment Status* **D**

From the text it is not clear why MFAS is required. I assume the main reason of defining and using it is that the SC-FEC uses it to identify the blocks (and not for the PT identification). It will be beneficial to have some text justifying the MFAS support.

*SuggestedRemedy*

Replace 2) with the following text: The MFAS is a multi-frame alignment signal. This field counts from 0 to 255, encoded with the most significant bit transmitted first; and it is required by the SC-FEC to identify the blocks (refer to ITU-T G.709.2 Annex B).

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.4** *P* **84** *L* **48** # 6

Bruckman, Leon Huawei

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

Missing part of the reference "G.709.2"

*SuggestedRemedy*

Refer to "ITU-T G.709.2"

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.4** *P* **85** *L* **17** # 7

Bruckman, Leon Huawei

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

Text not clear.

*SuggestedRemedy*

Replace: "While GMP is a generic mechanism that can accommodate an arbitrary signaling rate difference between the payloadand the space in which it is carried that uses a sigma/delta distribution algorithm," with: "While GMP is a generic mechanism that can accommodate an arbitrary signaling rate difference between the payloadand the space in which it is carried by implementing a sigma/delta distribution algorithm,

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.4** *P* **86** *L* **23** # 8

Bruckman, Leon Huawei

*Comment Type* **TR** *Comment Status* **D**

In table 153-1 the II and DI bits in rows 2 and 3 are wrong

*SuggestedRemedy*

II in row 2 should be 1 and DI should be 0, and in row 3 II should be 0 and DI should be 1.

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.4** *P* **87** *L* **23** # 9

Bruckman, Leon Huawei

*Comment Type* **TR** *Comment Status* **D**

The note may mislead people to think that the 100GBASE-RZ signal is interoperable with an OTU4 interface, but this is not the case since all OAM fields of an OTU4 signal (except FAS, MFAS and PT) are not assigned in a 100GBASE-RZ signal.

*SuggestedRemedy*

I recommend to consider one of the following options:
1 - Do not define the PT and remove the note
2 - Just remove the note

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.2.4** *P* **87** *L* **23** # 44

Nicholl, Gary Cisco

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

Note appears to be using the wronf font.

*SuggestedRemedy*

Fix font used fo note.

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.3.3.5** *P* **89** *L* **29** # 10

Bruckman, Leon Huawei

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

This section describe the GMP demapper, so the demapper should be quoted.

*SuggestedRemedy*

Replace: "The principles of the GMP mapper" with: "The principles of the GMP demapper"

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.4** *P* **89** *L* **50** # 11

Bruckman, Leon Huawei

*Comment Type* **TR** *Comment Status* **D**

Since the MFAS is required for the SC-FEC block identification, the MFAS synchronization algorithm should be defined.

*SuggestedRemedy*

Add MFAS sinchronization similar to the one defined in ITU-T G.798 section 8.2.2

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.5** *P* **93** *L* **30** # 15

Maniloff, Eric Ciena

*Comment Type* **T** *Comment Status* **D**

Table 153-2 should define registers for calculating pre-FEC BER.

*SuggestedRemedy*

Add corrected bits and total bits to Table 153-2

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.2.5** *P* **93** *L* **31** # 12

Bruckman, Leon Huawei

*Comment Type* **TR** *Comment Status* **D**

In table 153-2 there is no instatus for MFAS

*SuggestedRemedy*

Add MFAS lock status to table 152-3

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.3.2.3.2** *P* **96** *L* **31** # 20

Schmitt, Matt CableLabs

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

In the title and text of this section, should the word be "disinterleave" or "deinterleave"? I am more familiar with the latter.

*SuggestedRemedy*

Change "disinterleave" to "deinterleave".

*Proposed Response* *Response Status* **O**

*Cl* **153** *SC* **153.4.4.1** *P* **98** *L* **20** # 34

Trowbridge, Steve Nokia

*Comment Type* **TR** *Comment Status* **D**

As described in other comments, no reason to use different skew or skew variation numbers in the Tx direction than Clause 91

*SuggestedRemedy*

Change the skew TBD to 49ns and the skew variation TBD to 400ps

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.1** *P* **100** *L* **8** # 48

D'Ambrosia, John Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **T** *Comment Status* **D**

DWDM Channel is not defined

*SuggestedRemedy*

Add definition - DWDM Channel - The transmission path over a single wavelength on a defined frequency grid between a DWDM PHY transmitting to another DWDM PHY.

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.1** *P* **100** *L* **8** # 49

D'Ambrosia, John Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **T** *Comment Status* **D**

"black link" is not defined

*SuggestedRemedy*

Leverage industry definition

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.1** *P* **100** *L* **11** # 54

D'Ambrosia, John Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **TR** *Comment Status* **D**

This statemet is erroneous -
"When forming a complete Physical Layer, a PMD shall be connected to the appropriate PMA as
shown in Table 154–1,"
a complete 100GBASE-ZR PHY is based on the Clause 82 PCS, Lcause 153 SC FEC / 100GBASE-ZR PMA, and 100GBASE-ZR PMD.
THe 100GBASE-ZR PMD sublayer may be part of a complete PHY that can be attached to an existing 100GBASE-R PMA sublayer.

*SuggestedRemedy*

Change following text
"When forming a complete Physical Layer, a PMD shall be connected to the appropriate PMA as shown in Table 154–1,"
to
"To form a complete 100GBASE-ZR physical layer, a PMD shall be connected to the 100GBASE-ZR PMA as shown in Table 154-1. The PMD may also be connected to the 100GBASE-R PMA sublayer as shown in Table 154-1."

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.1** *P* **101** *L* **27** # 35

Trowbridge, Steve — Nokia

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

Unbalanced legend under Figure 154-1

*SuggestedRemedy*

Move PCS to the top of the right column so both columns are the same length

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.4** *P* **103** *L* **42** # 36

Trowbridge, Steve — Nokia

*Comment Type* **ER** *Comment Status* **D**

Indianapolis Motion #5 adopted the channel plan for 48 channels, so TX index 47 (left and right columns) doesn't need to be magenta

*SuggestedRemedy*

Change Tx index 47 (two occurrences) to black font. Also Rx index 47 (two occurrences) to black font two rows later in the table

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.5.1** *P* **104** *L* **20** # 51

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

*Comment Type* **T** *Comment Status* **D**

DWDM link is not defined

*SuggestedRemedy*

Add definition - DWDM Link - One DWDM PHY transmitting to one other DWDM PHY through the transmission path between them

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.5.4** *P* **105** *L* **22** # 13

Bruckman, Leon — Huawei

*Comment Type* **TR** *Comment Status* **D**

There is a single optical lane

*SuggestedRemedy*

Repalce: "SIGNAL_DETECT shall be a global indicator of the presence of optical signals on both lanes." with: "SIGNAL_DETECT shall be an indicator of the presence of an optical signals ."
Also fix accordingly Table 154-5 by removing from row 1 "For any lane;" and from row 2: "For all lanes;"

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.6** *P* **107** *L* **23** # 56

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

The label "DWDM network" is not defined

*SuggestedRemedy*

Add definition - DWDM Network - TBD

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.6** *P* **107** *L* **31** # 57

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

The DWDM frequency grid is defined by Table 154-6, which corresponds to Recommendation ITU-T G.694.1.

*SuggestedRemedy*

Reword - These multiple DWDM channels operate on a DWDM frequency grid, according to Recommendation ITU-T G.694.1. The 100GBASE-ZR PMD specification covers a maximum
of 48 channels. Operation of a DWDM system with any number of channels between 1 and 48 is supported.
Table 154–6 shows the mapping of the 100GBASE-ZR channel index numbers to the optical channel center
frequencies.
to
These multiple DWDM channels operate on a DWDM frequency grid, defined by Table 154-6, which shows the mapping of the 100GBASE-ZR channel index numbers to the optical channel center
frequencies. This grid corresponds to the DWDM frequency grid defined by Recommendation ITU-T G.694.1. The 100GBASE-ZR PMD specification covers a maximum
of 48 channels. Operation of a DWDM system with any number of channels between 1 and 48 is supported.

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.6** *P* **107** *L* **40** # 21

Schmitt, Matt — CableLabs

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

This table has been constructed so that there are two parallel sets of 3 columns each within the same table. Because there is nothing to show a separation between the two sets of 3 columns, unless you study the table closely, it appears instead to be a 6 column table, and it's not immediately obvious that the last 3 columns are "wrap around" data from the first 3 columns (especially since the table already goes across pages).

*SuggestedRemedy*

While it might take up more pages, for clarity, a single table of 3 columns might work much better. Alternately, create some separation between the 3rd and 4th columns so that it's clear it's two separate sets of data.

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.6** *P* **107** *L* **44** # 22

Schmitt, Matt — CableLabs

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

While technically the "Channel Index Number" is arbitrary, and therefore starting from zero makes a certain amount of logical sense, it is common practice in other forums to align the "channel number" with the last two digits of the Channel Center Frequency, thereby making it easy to understand immediately from the channel number what the frequency is or vice versa. This would improve the value and usability of the channel number.

*SuggestedRemedy*

Change the first "Channel index number" from "0" to 14 (to align with 191.4 THz Channel center frequency), and update all subsequent "Channel index numbers" accordingly, such that the last "Channel index number" becomes "61".

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.7** *P* **108** *L* **46** # 58

D'Ambrosia, John — Futurewei, U.S. Subsidiary of Huawei

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

Unnecessary text - A PMD that exceeds the
operating range requirement while meeting all other optical specifications is considered compliant (e.g., a
100GBASE-ZR PMD operating at 90 km meets the operating range requirement of 2 m to 80 km).

*SuggestedRemedy*

Delete noted text

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.7.3** *P* **110** *L* **39** # 16

Maniloff, Eric — Ciena

*Comment Type* **T** *Comment Status* **D**

No value in table 154-10 for power penalty for unamplified applications

*SuggestedRemedy*

Add power penalty entry

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.7.3** *P* **111** *L* **6** # 17

Maniloff, Eric — Ciena

*Comment Type* **T** *Comment Status* **D**

PDL level is low for amplified DWDM application

*SuggestedRemedy*

Increase PDL to 2.5dB

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.8.12** *P* **113** *L* **4** # 23

Schmitt, Matt — CableLabs

*Comment Type* **T** *Comment Status* **D**

It's good that we point out that there is a linkage/pairing between this parameter and OSNR(193.6) [amplified]. However, we don't explain what that linkage is and how it applies, which could leave a reader confused as to what that means.

*SuggestedRemedy*

Add an explanation of how they're linked. This could be an extensive one -- probably in a separate section -- that includes a diagram along the lines of what was presentec to the TF in a previous contribution, or it could even be some simple text added here (or both). Some possible example text of an extension to the existing sentence might be along the lines of: "Note that this parameter is paired with OSNR(193.6) [amplified], in that it defines the average input power at which the OSNR(193.6) [amplified] is measured."

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.8.13** *P* **113** *L* **9** # 24

Schmitt, Matt — CableLabs

*Comment Type* **T** *Comment Status* **D**

Same comment as above for 154.8.12.

*SuggestedRemedy*

Same comment as above for 154.8.12.

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.8.16** *P* **113** *L* **23** # 25

Schmitt, Matt — CableLabs

*Comment Type* **T** *Comment Status* **D**

The definition in G.698.2 that is being referenced here states in part that: "The receiver OSNR tolerance is defined as the minimum value of OSNR at point RS that can be tolerated while maintaining the maximum BER of the application. This must be met for all powers between the maximum and minimum mean input power with a transmitter with worst-case values of...[list of parameters]. And also that: "The receiver OSNR tolerance is equal to the minimum OSNR at point RS minus the maximum optical path OSNR penalty." We have defined a maximum optical path OSNR penalty of 3 dB, and have therefore established that the value of this parameter is 16.5 dB (in Table 154-9). This is based off of subtracting 3 from the Minimum OSNR(193.6) [amplified] value of 19.5 dB. However, that last parameter is only relevant to the amplified case; we also have a Minimum average input power [unamplified] which is -30, and an associated Minimum OSNR(193.6) [unamplified] of 35 dB (meaning that achieving a minimum average input power of -30 dBm is only possible when the OSNR is 35 dB or greater). However, a strict reading of the definition for Receiver OSNR tolerance implies that -30 dBm would also have to be met at 16.5 dB OSNR, which is not realistic or intended.

*SuggestedRemedy*

There are several possible options for addressing this. One would be to create separate Receiver OSNR tolerance parameters for the amplified and unamplified cases. Another would be to clarify that this parameter applies only in the amplified case. Another would be to introduce a more thorough explanation of the relationship between power and OSNR in the requirements (as suggested above). A combination of more than one of these solutions would likely work as well.

*Proposed Response* *Response Status* **O**

*Cl* **154** *SC* **154.9.2** *P* **114** *L* **7** # 37

Trowbridge, Steve — Nokia

*Comment Type* **T** *Comment Status* **D**

Since this is a new kind of interface for 802.3 where multiple signals from different Ethernet PHYs are combined over the same fiber inside of the black-link, clarify where this text applies.

*SuggestedRemedy*

Add to the first paragraph that this text applies to the single-channel MDI for this PMD, and that optical safety at a multi-channel reference point (e.g., after a WDM multiplexer and amplifier) is outside of the scope of this standard.

*Proposed Response* *Response Status* **O**