

IEEE P802.3cw D1.0 400 Gb/s over DWDM systems 1st Task Force review comments

Cl FM SC FM P124 L20 # 81
 Dawe, Piers Nvidia
Comment Type E Comment Status D bucket
 Missing tab in the format for some contents entries?
SuggestedRemedy
 Fix or re-apply the template?
Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 There is no page 124 in the document so not clear on the specific issue raised. Some spacing and text wrap issues were noticed in the table contents and these will be resolved.

Cl 1 SC 1.4.110c P19 L9 # 82
 Dawe, Piers Nvidia
Comment Type TR Comment Status D
 Saying simply that 400GBASE-Z uses 400GBASE-R encoding is misleading the reader; this isn't just another BASE-R. A distinguishing feature is OTN-like GMP framing and clocking. Also, the next definition, for 400GBASE-ZR, says "using 400GBASE-Z encoding", phase and amplitude modulation and coherent detection, the same as this one. There has to be some difference between 400GBASE-R and 400GBASE-Z - and there is, the difference is GMP.
SuggestedRemedy
 Change "using 400GBASE-R encoding, a combination of phase and amplitude modulation..." to "using 400GBASE-R encoding, GMP retiming and framing, a combination of phase and amplitude modulation...".
Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change "using 400GBASE-Z encoding" to "using 400GBASE-R encoding". No other changes to the text. This description aligns with the corresponding text in 802.3ct, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

Cl 30 SC 30.5.1.1.2 P20 L17 # 25
 Huber, Tom Nokia
Comment Type E Comment Status D bucket
 The term 'DWDM system' is not present in the corresponding text for 100GBASE-ZR in 802.3ct, and should not be present here.
SuggestedRemedy
 Delete 'DWDM system', so the text reads 400GBASE-ZR PCS/400GBASE-ZR PMA over a PMD with reach up to at least 80 km as specified in Clause 156.
Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 116 SC 116.1.3 P28 L13 # 84
 Dawe, Piers Nvidia
Comment Type TR Comment Status D
 As 1.4.110c says that 400GBASE-Z is an "IEEE 802.3 family of Physical Layer devices", it's not 400GBASE-R and needs introduction here.
SuggestedRemedy
 Add a sentence introducing the 400GBASE-Z family.
Proposed Response Response Status W
 PROPOSED REJECT.
 This text aligns with the corresponding text in 802.3ct, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

Cl 116 SC 116.1.3 P28 L23 # 85
 Dawe, Piers Nvidia
Comment Type TR Comment Status D
 This says that 400GBASE-ZR uses 400GBASE-R encoding, while 1.4.110d says it uses using 400GBASE-Z encoding. As the encoding is not regular 400GBASE-R encoding but GMP retimed and framed, 400GBASE-Z encoding is right and 400GBASE-R encoding is wrong (seriously incomplete).
SuggestedRemedy
 Change "400GBASE-R encoding" to "400GBASE-Z encoding".
Proposed Response Response Status W
 PROPOSED REJECT.
 This text aligns with the corresponding text in 802.3ct, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.. See response to comment 82.

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CI 116 SC 116.2.3 P29 L47 # 26

Huber, Tom Nokia
 Comment Type T Comment Status D

Probably best to split out 200G and 400G here, so that the 400G part can refer to both 119/120 and 155.

SuggestedRemedy

Revise the text to read as follows:
 The term 200GBASE-R refers to a specific family of Physical Layer implementations based upon the 64B/66B coding method specified in clause 119 and the PMA specifications defined in clause 120. The term 400GBASE-R refers to a specific family of Physical Layer implementations based upon the 64B/66B coding method specified in clause 119 or 155 and the PMA specifications defined in Clause 120 or 155. 200GBASE-R and 400GBASE-R PCSs perform encoding (decoding) of data from (to) the 200GMII or 400GMII to 256B/257B code blocks, apply FEC, distribute the data to multiple lanes, and transfer the encoded data to the PMA.

The 200GBASE-R PCS has almost the same functionality as the 200GXS, and therefore may be configured as a 200GXS in order to implement part of the optional 200GMII Extender (see Clause 118). The 400GBASE-R PCS has almost the same functionality as the 400GXS, and therefore may be configured as a 400GXS in order to implement part of the optional 400GMII Extender (see Clause 118).

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 116 SC 116.2.4 P30 L17 # 27

Huber, Tom Nokia
 Comment Type T Comment Status D

Since the 400GBASE-ZR PMA is different, it is perhaps easiest to just add a sentence in front of the existing text.

SuggestedRemedy

Change from: "The 200GBASE-R and 400GBASE-R PMAs are specified in Clause 120." to
 The 400GBASE-ZR PMA is specified in clause 155. The 200GBASE-R PMA and all other 400GBASE-R PMAs are specified in Clause 120.

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 116 SC 116.2.5 P30 L21 # 86

Dawe, Piers Nvidia
 Comment Type E Comment Status D bucket

P802.3ck is changing this subclause and comes before this project in the list of amendments.

SuggestedRemedy

Update the draft to include P802.3ck's changes as necessary

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 116 SC 116.2.5 P30 L25 # 87

Dawe, Piers Nvidia
 Comment Type TR Comment Status D

Clause 156 is for 400GBASE-ZR which isn't a 400GBASE-R PMD, it's a 400GBASE-Z PMD.

SuggestedRemedy

Change "400GBASE-R" to "400GBASE" in this sentence.

Proposed Response Response Status W
 PROPOSED REJECT.

The use of x00GBASE-R is consistent between 802.3ct, which was the first project to define Ethernet operation over DWDM systems, and 802.3ct and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

CI 116 SC 116.4 P30 L38 # 89

Dawe, Piers Nvidia
 Comment Type T Comment Status D

As this table contains entries for both 400GBASE-R and 400GBASE-Z

SuggestedRemedy

For footnotes a and b, change 400GBASE-R to 400GBASE

Proposed Response Response Status W
 PROPOSED REJECT.

There is no 400GBASE-Z PMA.

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CI 116 SC 116.4 P30 L38 # 88
 Dawe, Piers Nvidia
 Comment Type T Comment Status D
 Need an entry for the delay of the 400GBASE-Z PMA
 SuggestedRemedy
 Add a row for the delay of the 400GBASE-Z PMA
 Proposed Response Response Status W
 PROPOSED REJECT.
 There is no 400GBASE-Z PMA.

CI 116 SC 116.5 P31 L9 # 90
 Dawe, Piers Nvidia
 Comment Type T Comment Status D
 As this table contains entries for both 400GBASE-R and 400GBASE-Z
 SuggestedRemedy
 Change "400GBASE-R" to "400GBASE"
 Proposed Response Response Status W
 PROPOSED REJECT.
 There is no 400GBASE-Z PMA.

CI 155 SC 155 L2 # 91
 Dawe, Piers Nvidia
 Comment Type TR Comment Status D nomenclature
 type what?
 This PHY called "400GBASE-ZR" in this draft is similar in intent to 10GBASE-LW: the output from a BASE-R PCS is transmitted in telecoms style framing. While Z in the first position as an alternative to S, L or E, is familiar from unofficial specs as meaning 80 km or similar.
 SuggestedRemedy
 Complete the title: 400GBASE-ZW. Change 400GBASE-ZR to 400GBASE-ZW throughout, change 400GBASE-Z to 400GBASE-W throughout.
 Proposed Response Response Status W
 PROPOSED REJECT.
 This text aligns with the corresponding text in 802.3ct, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

CI 155 SC 155.1.1 P33 L20 # 28
 Huber, Tom Nokia
 Comment Type E Comment Status D bucket
 Missing a / between 54B and 66B
 SuggestedRemedy
 Change 64B66B to 64B/66B
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.1.2 P34 L3 # 1
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 In following clauses the PCS and PMA are referred to as shaded, but in the figure they are not
 SuggestedRemedy
 Add shade to the PCS and PMA blocks in Figure 155-1
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.1.2 P34 L19 # 2
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 400GAUI-n is not mentioned in the figure
 SuggestedRemedy
 Remove the 400GAUI-n definition from the Figure 155-1 text
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.1.2 P34 L19 # 57
 Maniloff, Eric Ciena
 Comment Type E Comment Status D bucket
 400GAUI-n does not appear in this figure
 SuggestedRemedy
 Remove 400GAUI-n from the acronym definitions list
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 155 SC 155.1.3 P34 L38 # 94
 Dawe, Piers Nvidia
 Comment Type TR Comment Status D GMP
 This is so complicated and relies so heavily on references to a non-802.3 document that this definition by directive and reference risks ambiguity.
 SuggestedRemedy
 Add an annex with suitable examples (see Annex 119A for the idea). Large examples should can be made available separately on the web.
 Proposed Response Response Status W
 for discussion

CI 155 SC 155.1.4 P35 L1 # 3
 Bruckman, Leon Huawei
 Comment Type T Comment Status D data rate
 Better indicate the rate with its tolerance and use Gbd (instead of Gsymbol/s), also add the approximate nominal rate (as done in other clauses of this document). Refer for example to 802.3ct clause 153.3.2.2.2
 SuggestedRemedy
 Replace: "The 400GBASE-ZR PCS has a nominal rate at the PMA service interface of 59.84375 x (28/29) Gsymbol/s on each of two polarizations" with "The 400GBASE-ZR PCS has a rate at the PMA service interface of (28/29) x 59.84375 GBd ±20 ppm (~57.7802 GBd) on each of two polarizations"
 Proposed Response Response Status W

CI 155 SC 155.1.4 P35 L2 # 29
 Huber, Tom Nokia
 Comment Type T Comment Status D data rate
 While it is true that the interface between PCS and PMA is ultimately related to two streams of 16QAM symbols, and that two polarizations are used, that seems too detailed and not really consistent with how the Tx path is subsequently described, where the PMA is what creates the 16QAM symbols.
 SuggestedRemedy
 State the nominal rate at the PMA service interface as ~462 Gbit/s rather than as a symbol rate per polarization.
 Proposed Response Response Status W

CI 155 SC 155.1.4.1 P35 L11 # 30
 Huber, Tom Nokia
 Comment Type T Comment Status D MII description
 While clause 117 may specify both 200GMII and 400GMII the PCS service interface for 400GBASE-ZR is only the 400GMII.
 SuggestedRemedy
 Delete 200GMII from the parenthetical "(200GMII/400GMII)"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.2.1 P36 L11 # 31
 Huber, Tom Nokia
 Comment Type T Comment Status D PMA inputs
 The text here describes the Tx interface between the PCS and PMA as two streams of 4-bit symbols. Figure 155-2 and other text in 155.2.x describes it as 8 bitstreams, and 155.3 describes how the PMA creates the 16QAM symbols and distributes them to the two polarizations.
 SuggestedRemedy
 It appears that the intent is that the interface between PCS and PMA in the Tx direction be described as 8 bitstreams, and the PMA is responsible for turning that into two streams of 16QAM symbols. Change "When communicating with the PMA in the transmit direction, the 400GBASE-ZR PCS provides two streams of 4-bit 16-state quadrature amplitude modulation (16QAM) symbols." to "When communicating with the PMA in the transmit direction, the 400GBASE-ZR PCS provides 8 digital lanes, which the PMA encodes into 2 streams of 16QAM symbols."

Proposed Response Response Status W

CI 155 SC 155.2.1 P37 L47 # 32
 Huber, Tom Nokia
 Comment Type T Comment Status D bucket
 This sentence would fit better as part of the earlier paragraph about the transmit channel being in test-pattern mode.
 SuggestedRemedy
 Move the sentence to the end of the paragraph on line 29.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 155 SC 155.2.2 P37 L51 # 33
 Huber, Tom Nokia
 Comment Type E Comment Status D bucket
 Missing a B in 64/66B
 SuggestedRemedy
 Change to "64B/66B".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.2.4.1 P38 L12 # 58
 Maniloff, Eric Ciena
 Comment Type T Comment Status D GMP description
 The statement that rate matching isn't required is correct, but not because of the GMP process. Rate matching is not needed because AM's are not inserted.
 SuggestedRemedy
 Clarify sentence to indicate that rate-matching is not needed because AM's are not inserted on the transcoded blocks.
 Proposed Response Response Status W

CI 155 SC 155.2.4.3 P38 L28 # 34
 Huber, Tom Nokia
 Comment Type T Comment Status D bucket
 The description of the frame is confusing. The text says the frame contains 10240 257B blocks, which are viewed as an array of 256 by 10280 bits, but the switch from blocks to bits is not clearly stated in the text (it is clear in the figure). Also, the overhead portion of the frame isn't organized into 257B blocks - it just occupies the space that 20 257B blocks would occupy.
 SuggestedRemedy
 Replace the second sentence of the first paragraph with these sentences:
 The frame is illustrated as a structure with 256 rows of 10 280 bits with a logical transmission order of left to right, top to bottom. This frame contains 5140 bits of overhead and 10220 257B blocks of payload..
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.2.4.3 P39 L4 # 4
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 The "mapper" is referred to in the previous sentence as the "GMP mapper". Call it the same in this sentence for consistency.
 SuggestedRemedy
 Replace: "The mapper values" with: "The GMP mapper values"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.2.4.3 P39 L5 # 35
 Huber, Tom Nokia
 Comment Type T Comment Status D bucket
 Since the details of the overhead are in 155.2.4.4.3, it would be better to just reference that clause here.
 SuggestedRemedy
 Revise list item 3) to read as follows: "The next 1280 bits carry OH bytes, as discussed in 155.2.4.4.3."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.2.4.4.3 P40 L26 # 36
 Huber, Tom Nokia
 Comment Type T Comment Status D OH description
 It would be more clear if the specific overhead functions that are supported are mentioned first, and then the note that other OH defined in G.709.1 is not used. Also the value to be filled in for the unused bytes should be clearly specified (G.709.1 says unsourced overhead is set to zero, so that is suggested here as well), and the editor's note concerning interleaving needs to be addressed. The details of the JC OH being multiframed are better handled in the later clause that is specific to that overhead.
 SuggestedRemedy
 Replace the text with the following: The overhead is organized into 4 sets of 320 bits that are interleaved in groups of 10 bits to form the 1280 bit field. The contents of each group of 320 bits is described in ITU-T G.709.1 clauses 8.1 and 9.2. For 400GBASE-ZR, only the first set of 320 bits is used, and within those bits, only the multi-frame alignment signal (MFAS) byte, status byte, and six justification control bytes JC1 to JC6 are used. Other overhead defined in G.709.1 is not used and is set to 0.
 Proposed Response Response Status W

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Cl 155 SC 155.2.4.4.3 P40 L29 # 5 [REDACTED]
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 The "mapper" is referred to in the previous sentence as the "GMP mapper". Call it the same in this sentence for consistency.
 SuggestedRemedy
 Replace: "The mapper values" with: "The GMP mapper values"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 155 SC 155.2.4.4.4 P40 L39 # 37 [REDACTED]
 Huber, Tom Nokia
 Comment Type T Comment Status D bucket
 There are only 4 320-bit instances in the overhead; the MFAS is only in the first one.
 SuggestedRemedy
 Change "The MFAS is in the first four 320-bit OH instances" to "The MFAS is in the first of the four 320-bit OH instances."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 155 SC 155.2.4.4.4 P40 L40 # 6 [REDACTED]
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 The MFAS is a wrapping counter
 SuggestedRemedy
 Replace: "It counts from 0x00 to 0xFF" with "It is a wrapping counter from 00x00 to 0xFF"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 155 SC 155.2.4.4.5 P40 L44 # 38 [REDACTED]
 Huber, Tom Nokia
 Comment Type T Comment Status D replacement signal
 LF is a reasonable replacement signal to insert (this is what ITU and OIF both specify)
 SuggestedRemedy
 Replace the first sentence of the clause and the editor's note with the following: In the case of a DSP framing or 400GBASE-ZR frame or multi-frame loss, the PCS receive path inserts a stream of 257B blocks carrying LF ordered sets.
 Proposed Response Response Status W

Cl 155 SC 155.2.4.4.5 P41 L5 # 7 [REDACTED]
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 Redundant text
 SuggestedRemedy
 Replace "The 3-bit LDI field is defined to indicate to the downstream 400GBASE-ZR PHY to indicate the quality" with "The 3-bit LDI field is defined to indicate to the downstream 400GBASE-ZR PHY the quality"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 155 SC 155.2.4.4.5 P41 L5 # 59 [REDACTED]
 Maniloff, Eric Ciena
 Comment Type T Comment Status D OH description
 Need complete OH diagram to indicate LDI and RPF locations.
 SuggestedRemedy
 Add complete OH definitions/diagram including bit locations
 Proposed Response Response Status W

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CI 155 SC 155.2.4.4.6 P41 L14 # 39
 Huber, Tom Nokia
 Comment Type T Comment Status D GMP description
 It would be helpful to introduce the multiframe aspect of this overhead here and also indicate that the details are in the OIF 400ZR IA.
 SuggestedRemedy
 Insert this text at the start of the clause: The justification control information is spread across the second, third, and fourth frames of a four-frame multiframe (based on the two lowest order bits of the MFAS) as described in OIF 400ZR IA.Clause 8.9.
 Proposed Response Response Status W

CI 155 SC 155.2.4.4.6 P41 L15 # 8
 Bruckman, Leon Huawei
 Comment Type T Comment Status D GMP description
 JcN bytes are used to recover the data blocks from the payload.
 SuggestedRemedy
 Replace "which are then used by the receive path GMP de-mapper to re-time the received 257B blocks to the same..." with "which are then used by the receive path GMP de-mapper to recover the 275B data blocks and re-time them to the same..."
 Proposed Response Response Status W

CI 155 SC 155.2.4.5 P41 L27 # 9
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 Unnecessary new line and missing chracter
 SuggestedRemedy
 Make "Each SC-FEC block has 119 x 10 280 / 5 244 664 bits." part of the previous paragraph (no new line) and replace: "119 x 10 280 / 5 244 664 bits" wih : "119 x 10 280 / 5 bits = 244 664 bits"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.2.4.5 P41 L30 # 10
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 Wrong plural
 SuggestedRemedy
 Replace "A 32-bit cyclic redundancy codes is calculated" with: "A 32-bit cyclic redundancy code is calculated"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.2.4.5 P41 L31 # 40
 Huber, Tom Nokia
 Comment Type T Comment Status D CRC description
 The generator polynomial is clearly not described in 3.2.9 of 802.3. It is unclear what reference is intended.
 SuggestedRemedy
 Provide the correct cross-reference. The generator polynomial is discussed in 9.2 of OIF 400ZR IA; is that the intended reference?
 Proposed Response Response Status W

CI 155 SC 155.2.4.6 P42 L12 # 11
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 Unnecessary word (IMHO)
 SuggestedRemedy
 Replace "requires an additional 34 bits of padding" with : "requires additional 34 bits of padding"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 155 SC 155.2.4.8 P44 L8 # 12
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 There seem to be a missing space after the dot
 SuggestedRemedy
 Add a space between the dot and the beging of the sentence "The operation."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 155 SC 155.2.5.1 P47 L5 # 41
 Huber, Tom Nokia
 Comment Type T Comment Status D SD-FEC description
 The text is difficult to parse.
 SuggestedRemedy
 Replace the first sentence with two sentences and modify the beginning of the (current) second sentence as shown: The Hamming SD-FEC decoder extracts 119 bits from an incoming 128-bit SD-FEC codeword. The incoming SD-FEC codeword is formed from a digitized representation of sixteen DP-16QAM symbols. The incoming DP-16QAM symbols are digitized to an m-bit resolution by the PMA...
 Proposed Response Response Status W

Cl 155 SC 155.2.5.7.1 P48 L17 # 13
 Bruckman, Leon Huawei
 Comment Type T Comment Status D bucket
 The MFAS is a wrapping counter
 SuggestedRemedy
 Replace: "It counts from 0x00 to 0xFF" with "It is a wrapping counter from 00x00 to 0xFF"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 155 SC 155.2.5.7.2 P48 L41 # 14
 Bruckman, Leon Huawei
 Comment Type T Comment Status D OH description
 The sentence defining the RPF bit, although identical to the one in G.709.1, is a little bit confusing.
 SuggestedRemedy
 Replace: "The RPF bit indicates that a signal fail status was detected by the remote 400GBASE-ZR receive function in the upstream direction" with: "The RPF bit indicates, in the upstream direction, that a signal fail status was detected by the remote 400GBASE-ZR receive function"
 Proposed Response Response Status W

Cl 155 SC 155.2.5.7.2 P48 L48 # 15
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 Wrong tense
 SuggestedRemedy
 Replace "define in Clause 118" with "defined in Clause 118"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 155 SC 155.2.5.8 P49 L1 # 16
 Bruckman, Leon Huawei
 Comment Type T Comment Status D GMP
 Missing clause
 SuggestedRemedy
 There is no clause that describes the GMP de-mapper, something like: "The GMP de-mapper uses the JC bytes to recover the 257B data blocks and re-time them"
 Proposed Response Response Status W

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CI 155 SC 155.3.1.3 P49 L44 # 97
 Dawe, Piers Nvidia
 Comment Type TR Comment Status D PMA
 This isn't your grandfather's PMA. Frame alignment word (FAW), training sequence (TS), reserved symbols and pilot sequences (PS) are more like PCS functions, and complicated enough that definition by directive risks ambiguity.
 SuggestedRemedy
 As for a PCS: add an annex with suitable examples (see Annex 119A for the idea). Large examples should can be made available separately on the web.
 Proposed Response Response Status W

CI 155 SC 155.3.2 P50 L32 # 17
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 Missing dot
 SuggestedRemedy
 Add dot after "400GBASE-ZR PCS"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.3.2 P51 L49 # 18
 Bruckman, Leon Huawei
 Comment Type T Comment Status D PMA
 Sentence is not clear, and also the "SIL" acronym shall be called out here.
 SuggestedRemedy
 Replace "The PMA:IS_SIGNAL.indication primitive is generated through a set of signal indication logic that reports", with "The PMA:IS_SIGNAL.indication primitive is generated through a signal indication logic (SIL) that reports"
 Proposed Response Response Status W

CI 155 SC 155.3.3.5 P58 L48 # 96
 Dawe, Piers Nvidia
 Comment Type T Comment Status D bucket
 PMA:IS_UNITDATA_0.indication to PMA:IS_UNITDATA_3.indication
 SuggestedRemedy
 PMD:IS_UNITDATA_0.indication to PMD:IS_UNITDATA_3.indication
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.3.3.6 P59 L21 # 19
 Bruckman, Leon Huawei
 Comment Type E Comment Status D bucket
 Missing plural
 SuggestedRemedy
 Replace "into two stream" with: "into two streams"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 155 SC 155.3.3.6 P59 L41 # 20
 Bruckman, Leon Huawei
 Comment Type T Comment Status D cross reference
 Not clear which clause is referred here
 SuggestedRemedy
 "according to Clause 155", but this is clause 155, so either repalce with "according to this clause" or write the right clause.
 Proposed Response Response Status W

CI 155 SC 155.7 P60 L31 # 60
 Maniloff, Eric Ciena
 Comment Type T Comment Status D Delay constraints
 Delay listed as 892.16 ns is incorrect, actual delay is ~4.5 us.
 SuggestedRemedy
 Update delay with actual value.
 Proposed Response Response Status W
 For discussion

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Cl 156 SC 156.1 P64 L25 # 61
 Maniloff, Eric Ciena
 Comment Type E Comment Status D bucket
 ZR is incomplete name
 SuggestedRemedy
 Replace ZR with 400GBASE-ZR
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 156 SC 156.1.1 P64 L37 # 62
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 BER of 2.4E-4 is incorrect
 SuggestedRemedy
 Replace 2.4E-4 with correct value of ~1.26e-2
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 156 SC 156.2 P65 L19 # 83
 Dawe, Piers Nvidia
 Comment Type T Comment Status D
 This says that the SIGNAL_DETECT parameter can take on one of two values: OK or FAIL, while 156.5.4 says that SIGNAL_DETECT is fixed to OK.
 SuggestedRemedy
 As this PMD can be used with non-amplified channels, it would be useful to change 156.5.4 to allow a conventional signal detect function with two values when used with non-amplified channels.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 21. No change to 156.5.4.

Cl 156 SC 156.2 P65 L19 # 21
 Bruckman, Leon Huawei
 Comment Type T Comment Status D
 According to clause 156.5.4 SIGNAL_DETECT is fixed to OK. This ahhl be reflected in thetext here
 SuggestedRemedy
 Tow options:
 1 - Replace "The SIGNAL_DETECT parameter can take on one of two values: OK or FAIL." with "The SIGNAL_DETECT parameter value is fixed to OK." and remove the sentence: "When SIGNAL_DETECT = FAIL, the rx_symbol parameters are undefined."
 2 - Just remove these two last sentences.

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change "The SIGNAL_DETECT parameter can take on one of two values: OK or FAIL. When SIGNAL_DETECT = FAIL, the rx_symbol parameters are undefined." to "The SIGNAL_DETECT parameter takes a fixed value of OK."

Cl 156 SC 156.2 P65 L23 # 22
 Bruckman, Leon Huawei
 Comment Type T Comment Status D
 SIGNAL_DETECT is not based on light received, it is fixed to OK
 SuggestedRemedy
 Remove from the note the sentence: "It is possible for a poor quality link to provide sufficient light for a SIGNAL_DETECT = OK indication and still not meet the BER defined in 156.1.1."
 Proposed Response Response Status W
 PROPOSED REJECT.

This text exactly matches the corresponding text in 802.3ct 154.2 and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

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CI 156 SC 156.5.1 P67 L7 # 103

Dawe, Piers Nvidia
 Comment Type TR Comment Status D

TP2 and TP3 are test points for the PMD. The way this clause uses TP2 as a specification point for the DWDM black link is causing problems, because the PMD and TP2 are separated by a patch cord between 2 m and 5 m in length (see 156.5.1). There is no need to the test point for the transmitter and the input to the "DWDM black link" to be at the same point. The input to the "Fiber optic cabling (channel)" (see Figure 38-7, Figure 151-7 or many others) is the MDI. There are plenty of names for the output of the PMD (such as "MDI", "PMD" or "transmitter"), or a new one could be invented.

SuggestedRemedy

Define the "DWDM channel" as from MDI to MDI, same as "Fiber optic cabling (channel)" in so many clauses, and or "link segment" (see 1.4.309). Use a figure like Figure 151-7 if appropriate. TP2 can be shown within the "DWDM channel", or the transmitter can be connected to TP2 for testing and to the "DWDM channel" for use, which is more realistic.

Proposed Response Response Status W
 PROPOSED REJECT.

The use of TP2 and TP3 in clause 156 is the same as 802.3ct clause 154, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

CI 156 SC 156.5.1 P67 L16 # 77

Park, Charles Juniper Networks
 Comment Type E Comment Status D bucket

Figure 156-2, PMD service interfaces in Fig. 156-2 need to be corrected.

SuggestedRemedy

"PMD:IS_UNITDATA_0.request to PMD:IS_UNITDATA_3.request"
 "PMD:IS_UNITDATA_0.indication to PMD:IS_UNITDATA_3.indication"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 156 SC 156.6 P68 L37 # 98

Dawe, Piers Nvidia
 Comment Type T Comment Status D

Channels aren't transported, they are transmission paths. Signals may be transported or transmitted over or on channels

SuggestedRemedy

Change "enable the transport of multiple DWDM channels over a single fiber" to "enable multiple DWDM channels over a single fiber" or "enable the transport of multiple DWDM signals over a single fiber".

Proposed Response Response Status W
 PROPOSED REJECT.

This text exactly matches the corresponding text in 802.3ct 154.6, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

CI 156 SC 156.6 P69 L32 # 63

Maniloff, Eric Ciena
 Comment Type T Comment Status D

TP2 and TP3 need to be indexed to in figure 156-3 to define intra and inter-channel impacts of the black link

SuggestedRemedy

Replace TP2 with TP2_i and TP3 with TP3_i

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

Change to TP2_i and TP3_i as suggested. The use of the _i labels is required to define the Adjacent DWDM channel spectral attenuation as stated in maniloff_3cw_01a_210429.

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CI 156 SC 156.7.1 P72 L20 # 44
 Zhang, Bo Marvell / Inphi
 Comment Type TR Comment Status D
 laser linewidth spec needs to be companioned with laser phase noise spec
 SuggestedRemedy
 Add laser phase noise spec from OIF published 400ZR IA - laser frequency noise mask (13.1.210)
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 65.

CI 156 SC 156.7.1 P72 L20 # 65
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 A single value for the linewidth is insufficient for a coherent receiver.
 SuggestedRemedy
 Replace linewidth with a Laser Frequency Noise mask.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 In Table 156-8 replace "Laser linewidth (max)" with "Laser Frequency Noise mask". Values TBD. Update parameter definitions 156.9 with editorial license.

CI 156 SC 156.7.1 P72 L26 # 45
 Zhang, Bo Marvell / Inphi
 Comment Type TR Comment Status D
 address TBD for EVM (max)
 SuggestedRemedy
 Replace TBD with 14.8% from way_3ct_01b_1119.pdf to stimulate some task force progress. Note that test methodology detailed in way_3ct_01b_1119.pdf might be different than that from pittala_3ct_01a_191205
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 24.

CI 156 SC 156.7.1 P72 L28 # 43
 Zhang, Bo Marvell / Inphi
 Comment Type TR Comment Status D
 address TBD for I-Q offset (max)
 SuggestedRemedy
 Adopt DC I-Q offset of -26dB and instantaneous I-Q offset of -20dB from OIF 400ZR spec to ensure interoperability between 400ZR and 400GBASE-ZR
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 67.

CI 156 SC 156.7.1 P72 L28 # 67
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 I-Q Offset should include both a max instantaneous and mean value
 SuggestedRemedy
 Split I/Q offset into maximum instantaneous and mean values
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 In Table 156-6 replace "I-Q offset (max)" with "I-Q (max instantaneous)" and "I-Q (mean)". Values TBD. Update parameter definitions 156.9, with editorial license.

CI 156 SC 156.7.1 P72 L33 # 66
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 Laser RIN is missing from table
 SuggestedRemedy
 Add an entry for RIN Average and an entry for RIN peak
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 In Table 156-6 add entries for "RIN Average" and "RIN peak". Values TBD. Update parameter definitions 156.9 with editorial license.

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CI 156 SC 156.7.2 P73 L14 # 80

Park, Charles Juniper Networks

Comment Type T Comment Status D

In Table 156-7, nominal center frequency is referring Table 156-4, which indicating the center frequency of 75GHz grid spacing.

Center frequency for 100GHz grid is different from that of 75GHz grid.

Better to provide the channel index and corresponding optical frequency for 100GHz grid.

SuggestedRemedy

change context correspondingly

Proposed Response Response Status W

PROPOSED REJECT.

See response to comment 78.

CI 156 SC 156.7.2 P73 L17 # 49

Zhang, Bo Marvell / Inphi

Comment Type TR Comment Status D bucket

Value in damage threshold is empty

SuggestedRemedy

Either remove this damage threshold spec or add a TBD in the value cell

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add TBD as value

CI 156 SC 156.7.2 P73 L24 # 68

Maniloff, Eric Ciena

Comment Type T Comment Status D

Receiver OSNR specs should be defined relative to -12dBm

SuggestedRemedy

Replace -16dBm with -12dBm

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 156 SC 156.7.2 P73 L24 # 46

Zhang, Bo Marvell / Inphi

Comment Type TR Comment Status D

Average receive power values called out in 'Receiver OSNR' are not aligned with the min Average receive power value in line 20

SuggestedRemedy

Replace -16dBm with -12dBm

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See response to comment 68.

CI 156 SC 156.7.2 P73 L27 # 69

Maniloff, Eric Ciena

Comment Type T Comment Status D

Receiver OSNR tolerance should be defined for Average Power (min)

SuggestedRemedy

Replace -16dBm with -12dBm

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 156 SC 156.7.2 P73 L28 # 47

Zhang, Bo Marvell / Inphi

Comment Type TR Comment Status D

Average receive power value called out in 'Receiver OSNR tolerance' is not aligned with the min Average receive power value in line 20

SuggestedRemedy

Replace -16dBm with -12dBm

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See response to comment 69.

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CI 156 SC 156.7.2 P73 L33 # 70
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 Tx OSNR min is 34dB, this should be used in note b
 SuggestedRemedy
 Replace 35 dB with 34 dB
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 156 SC 156.7.2 P73 L33 # 48
 Zhang, Bo Marvell / Inphi
 Comment Type TR Comment Status D
 footnote b says mandatory receiver OSNR tolerance spec is informative
 SuggestedRemedy
 Revise footnote b as 'b: Receiver sensitivity (max), for OSNR >=34dB (12.5GHz) is informative'
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 70.

CI 156 SC 156.8 P74 L7 # 71
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 Ripple is used in ITU-T G698.2 to define both the allowable loss/gain variations within the passband and the passband. Ripple as used here should be used only to define the loss/gain variations within the passband.
 SuggestedRemedy
 Add a footnote to clarify that ripple is only defining the loss/gain variations withing th DWDM channel passband.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 In Table 156-8 add footnote to "Ripple (max)" stating "Only used to define the loss or gain variations within the DWDM channel passband"

CI 156 SC 156.8 P74 L7 # 72
 Maniloff, Eric Ciena
 Comment Type T Comment Status D Interchannel cross talk
 The specification needs to include a more detailed DWDM channel passband definition.
 SuggestedRemedy
 Add a passband definition for the DWDM channel. A supporting contribution will be presented.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 64.

CI 156 SC 156.8 P74 L9 # 53
 Zhang, Bo Marvell / Inphi
 Comment Type TR Comment Status D
 Address TBD for Average output power at TP3
 SuggestedRemedy
 Replace TBD with 0dBm per Receiver spec
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 156 SC 156.8 P74 L11 # 73
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 References to 35 dB should all be to 34dB, since this is the minimum Tx OSNR
 SuggestedRemedy
 Replace all references (lines 11, 12, 16, 19) to 35dB (12.5GHz) with 34 dB (12.5GHz)
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 156 SC 156.8 P74 L12 # 50
 Zhang, Bo Marvell / Inphi
 Comment Type **TR** Comment Status **D**
 OSNR at TP3 value is not aligned with Transmitter in-band OSNR value
 SuggestedRemedy
 Replace 35dB with 34dB
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 73.

CI 156 SC 156.8 P74 L19 # 52
 Zhang, Bo Marvell / Inphi
 Comment Type **TR** Comment Status **D**
 OSNR at TP3 value is not aligned with Transmitter in-band OSNR value
 SuggestedRemedy
 Replace 35dB with 34dB
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 73.

CI 156 SC 156.8 P74 L12 # 54
 Zhang, Bo Marvell / Inphi
 Comment Type **TR** Comment Status **D**
 Address TBD for OSNR at TP3<35dB
 SuggestedRemedy
 Replace TBD with -12dBm per Receiver spec
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 Believe the commenter meant OSNR at TP3 >=35dB. Replace TBD with -12dBm. For task force discussion.

CI 156 SC 156.8 P74 L25 # 55
 Zhang, Bo Marvell / Inphi
 Comment Type **TR** Comment Status **D**
 Address TBD for fiber chromatic dispersion slope
 SuggestedRemedy
 Replace TBD with 0.05ps/km/nm/nm per P802.3ct spec
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

CI 156 SC 156.8 P74 L17 # 51
 Zhang, Bo Marvell / Inphi
 Comment Type **TR** Comment Status **D**
 OSNR at TP3 value is not aligned with Transmitter in-band OSNR value
 SuggestedRemedy
 Replace 35dB with 34dB
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 73.

CI 156 SC 156.8 P74 L34 # 74
 Maniloff, Eric Ciena
 Comment Type **T** Comment Status **D** Interchannel cross talk
 Inter-Channel Crosstalk is not a meaningful specification for a coherent receiver. The spectral distribution of the crosstalk needs to be defined.
 SuggestedRemedy
 Inter-Channel crosstalk should be replaced with a spectrally resolved attenuation definition between adjacent ports on the DWDM Black Link. A supporting contribution will be presented.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 64.

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CI 156 SC 156.9.5 P76 L13 # 75
 Maniloff, Eric Ciena
 Comment Type T Comment Status D
 Laser Linewidth defined as a single parameter is insufficient for a coherent receiver
 SuggestedRemedy
 A laser frequency noise mask should be included
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 65.

CI 156 SC 156.9.9 P76 L31 # 24
 Le Cheminant, Greg Keysight Technologies
 Comment Type T Comment Status D
 The definition of error-vector-magnitude (EVM) is currently in TBD status. EVM requires a definition as well as a specification limit. Small changes in EVM can be seen as large changes in OSNR (see http://grouper.ieee.org/groups/802/3/cn/public/adhoc/18_1025/anslow_3cn_01_181025.pdf). A specification limit requires a known method of measurement. The complexity of the EVM measurement requires a specific analysis process to achieve consistent results. This process should be explicitly defined. See https://grouper.ieee.org/groups/802/3/cn/public/adhoc/19_0207/lecheminant_3cn_01_190207.pdf and https://grouper.ieee.org/groups/802/3/cn/public/adhoc/19_0509/lecheminant_3ct_01_190509.pdf
 SuggestedRemedy
 A method for computing EVM has been developed by Keysight Technologies and used in ITU and OIF standards. This is contained within a large Matlab script. The computation details need to be followed exactly to achieve consistent results. This script is available for use within the IEEE 802.3 standard. It is likely too large to be directly written into the standard document, so If used, guidance from the group is requested on the details for script management and inclusion within the 802.3cw clauses. A presentation on the Keysight EVM script is planned to support this comment
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 For task force discussion.

CI 156 SC 156.9.12 P77 L3 # 95
 Dawe, Piers Nvidia
 Comment Type TR Comment Status D
 This subclause is supposed to define transmitter in-band OSNR. It says "OSNR is defined in 156.9.11." but does not say what "transmitter in-band" means.
 SuggestedRemedy
 Complete the definition
 Proposed Response Response Status W
 PROPOSED REJECT.
 This text exactly matches the corresponding text in 802.3ct 154.9.12, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

CI 156 SC 156.9.15 P77 L25 # 100
 Dawe, Piers Nvidia
 Comment Type T Comment Status D
 This subclause "Receiver OSNR" says "The Receiver shall be able to tolerate an OSNR", which sounds like OSNR tolerance. Yet the next subclause is called "Receiver OSNR tolerance". The names are too similar.
 SuggestedRemedy
 Make changes to make it clear to the reader why there are two things and what the difference is. If possible, rename one of them. A reference to 156A.2 might help.
 Proposed Response Response Status W
 PROPOSED REJECT.
 This text exactly matches the corresponding text in 802.3ct 154.9.15 and 154.9.16, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

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CI 156 SC 156.9.15 P77 L28 # 99
 Dawe, Piers Nvidia
 Comment Type TR Comment Status D
 Need to say whether transmitter impairments are included or not
 SuggestedRemedy
 Following 154.9.15 (P802.3ct), change "includes effects from impairments inside the DWDM black link." to "includes effects associated with impairments of the transmitter and inside the DWDM black link." Further, as the receiver should tolerate any compliant transmitter, not just its own transmitter, this would be better "includes effects associated with impairments of a transmitter and inside a DWDM black link."
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

Change "includes effects from impairments inside the DWDM black link" to "includes effects associated with impairments of the transmitter and inside the DWDM black link"

CI 156 SC 156.9.22 P78 L17 # 76
 Manloff, Eric Ciena
 Comment Type T Comment Status D Interchannel cross talk
 Inter-Channel Crosstalk is not a meaningful specification for a coherent receiver. The spectral distribution of the crosstalk needs to be defined.
 SuggestedRemedy
 156.9.22 should be modified to include an adjacent channel spectral attenuation for the DWDM black link, and describe how this is used along with Tx spectrum to calculate the worst-case inter-channel crosstalk.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See response to comment 64.

CI 156 SC 156.10.2 P78 L38 # 101
 Dawe, Piers Nvidia
 Comment Type TR Comment Status D
 As the sentence above says, laser safety should apply at the Tx MDI also. As we know, TP2 is not at the MDI.
 SuggestedRemedy
 Change "to the single channel points at TP2 and TP3, as shown in Figure 156-3," to "where the signals are in separate fibers, such as TP2 and TP3 in Figure 156-3".
 Proposed Response Response Status W
 PROPOSED REJECT.
 This text exactly matches the corresponding text in 802.3ct 154.10.2, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

CI 156 SC 156.10.2 P78 L44 # 23
 Bruckman, Leon Huawei
 Comment Type E Comment Status D
 Verb fix
 SuggestedRemedy
 Replace: "that the manufacturer of a laser product provide information" with: "that the manufacturer of a laser product provides information"
 Proposed Response Response Status W
 PROPOSED REJECT.
 The existing text is consistent with multiple enforce clauses.

CI 156 SC 156.11 P79 L41 # 92
 Dawe, Piers Nvidia
 Comment Type TR Comment Status D
 As we all know and Figure 156-2 shows, TP2 is not the MDI. Line 51 says see 156.5.1 which reminds us that "The optical transmit signal is defined at the output end of a single-mode fiber patch cord (TP2), between 2 m and 5 m in length". An equivalent sentence to this one in 156.11 has been deleted from 154.11.
 SuggestedRemedy
 Delete the sentence "At the transmitter output the MDI coincides with TP2 and at the receiver input with TP3, as shown in Figure 156-2."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 156A SC 156A.3 P87 L47 # 93

Dawe, Piers Nvidia
 Comment Type TR Comment Status D

It is not clear what if anything "application" means here. Sometimes it's the wrong word technically: see 1.4.309 link segment.

SuggestedRemedy

1. Here, change "Examples of DWDM black link applications with OSNR..." to "DWDM black link example with OSNR..." (there is only one example here);
2. Change "For any application over any DWDM black link distance and any number of channels" to "For a particular DWDM black link distance and number of channels";
3. Change "Specifically in an example application of 40 channels" to "Specifically in an example with";
- In 156A.4:
4. In 156A.4, change "Example of DWDM black link applications with OSNR" to "DWDM black link examples with OSNR" (there are four examples here);
5. Change "four examples of DWDM black link applications" to "four examples";
6. Change "conventional point-to-point Ethernet application where the PMDs" to "conventional point-to-point Ethernet link segment where the PMDs";
7. Change Table 156A-2--40 channel example DWDM black link application with ... to: Table 156A-2--40-channel example with ... and similarly for the next three tables.

Proposed Response Response Status W
 PROPOSED REJECT.

This text exactly matches the corresponding text in 802.3ct 154.9.12, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.

CI 156A SC 156A.4 P88 L34 # 56

Zhang, Bo Marvell / Inphi
 Comment Type TR Comment Status D

As the loss budget between TP2 to TP3 is less than 10dB, there is practically no usage for unamplified scenarios with Mux/dmux included

SuggestedRemedy

Suggest remove this whole 156A.4 section

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 156A SC 156A.4 P88 L54 # 102

Dawe, Piers Nvidia
 Comment Type TR Comment Status D

This says "the PMDs at TP2 and TP3" yet we know that the PMD and TP2 are separated by a patch cord between 2 m and 5 m in length (see 156.5.1).

SuggestedRemedy

Delete "at TP2 and TP3".

Proposed Response Response Status W
 PROPOSED REJECT.

The use of TP2 and TP3 in annex 156A is the same as 802.3ct annex 154A, which was the first project to define Ethernet operation over DWDM systems, and the stated intention is to ensure that 802.3cw is aligned with 802.3ct.