<table>
<thead>
<tr>
<th>Comment ID</th>
<th>SC</th>
<th>Page</th>
<th>Line</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Suggested Remedy</th>
<th>Response</th>
<th>Response Status</th>
<th>Comment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>00</td>
<td>13</td>
<td>36</td>
<td>E</td>
<td>A</td>
<td>Missing period at the end of the second sentence.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Replace, &quot;(Super-PON)&quot; with, &quot;(Super-PON).&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>155</td>
<td>38</td>
<td>2</td>
<td>E</td>
<td>A</td>
<td>Follow style for clause headers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Replace, &quot;Functional Block Diagram&quot; with, &quot;Functional block diagram&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>155</td>
<td>39</td>
<td>48</td>
<td>E</td>
<td>A</td>
<td>Follow style for clause headers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Replace, &quot;Use of Blocks&quot; with, &quot;Use of blocks&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>155</td>
<td>41</td>
<td>45</td>
<td>E</td>
<td>A</td>
<td>Follow style for clause headers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Replace, &quot;Alignment Marker (AM) and Pad insertion&quot; with, &quot;Alignment Marker (AM) and pad insertion&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general
COMMENT STATUS: D/dispatched  A/accepted  R/rejected  RESPONSE STATUS: O/open  W/written  C/closed  Z/withdrawn
SORT ORDER: Comment ID
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl.</th>
<th>SC</th>
<th>Page</th>
<th>Line</th>
<th>#</th>
<th>Type</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Suggested Remedy</th>
<th>Response Status</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>156</td>
<td>156.10</td>
<td>94</td>
<td>43</td>
<td>10</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;EVM Conformance test setup&quot; with, &quot;EVM conformance test setup&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>12</td>
<td>156</td>
<td>156.10.1</td>
<td>94</td>
<td>20</td>
<td>11</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;Calibrated Coherent Receiver&quot; with, &quot;Calibrated coherent receiver&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>13</td>
<td>156</td>
<td>156.10.1.1</td>
<td>95</td>
<td>2</td>
<td>12</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;Offline Digital Signal Processing&quot; with, &quot;Offline digital signal processing&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>14</td>
<td>156</td>
<td>156.10.1.2</td>
<td>95</td>
<td>42</td>
<td>13</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;Receive Filtering&quot; with, &quot;Receive filtering&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>15</td>
<td>156</td>
<td>156.10.1.2.1</td>
<td>95</td>
<td>25</td>
<td>14</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;Polarization Demux&quot; with, &quot;Polarization demux&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>16</td>
<td>156</td>
<td>156.10.1.2.2</td>
<td>95</td>
<td>31</td>
<td>15</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;Clock and Frequency Offset Recovery&quot; with, &quot;Clock and frequency offset recovery&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>17</td>
<td>156</td>
<td>156.10.1.2.3</td>
<td>95</td>
<td>39</td>
<td>16</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;Carrier Phase Recovery&quot; with, &quot;Carrier phase recovery&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>18</td>
<td>156</td>
<td>156.10.1.2.4</td>
<td>95</td>
<td>42</td>
<td>17</td>
<td>E</td>
<td>Follow style for clause headers</td>
<td>A</td>
<td>Replace, &quot;Receive Filtering&quot; with, &quot;Receive filtering&quot;</td>
<td>C</td>
<td>ACCEPT.</td>
</tr>
</tbody>
</table>
IEEE P802.3cw D1.3 400 Gb/s over DWDM systems 4th Task Force review comments

Cl 156 SC 156.10.1.2.5 P 95 L 48 # 17
Maguire, Valerie The Siemon Company
Comment Type E Comment Status A
Follow style for clause headers
SuggestedRemedy
Replace, "Offset Compensation" with, "Offset compensation"
Response Response Status C
ACCEPT.

Cl 120A SC 120A.6 P 105 L 28 # 18
Lewis, David Lumentum
Comment Type TR Comment Status A
The 400GBASE-ZR PCS should be a separate MMD from the PMA and PMD. This allows for the re-use of already defined MDIO registers in clause 45.
SuggestedRemedy
In Figure 120A-9 change the curly bracket for MMD1 to start at the divider between PCS and PMA. Add the caption MMD3 next to the PCS.
Response Response Status C
ACCEPT.

Cl 155 SC 155.2.4.5.2 P 43 L 10 # 19
Lewis, David Lumentum
Comment Type T Comment Status A Overhead
There needs to be clarification of how the LDI fields translate to tx_am_sf<2:0> when there is an adjacent PHY 400GXS. The connection may be made via MDIO registers or in an integrated implementation as a direct hardware connection.
SuggestedRemedy
Add a paragraph: "If there is an adjacent PHY 400GXS sublayer, then the value of RD in STAT<7> is equal to the value of rx_am_sf<2> from the 400GXS sublayer, and LD in STAT<8> is equal to the value of rx_am_sf<1> from the 400GXS sublayer. If there is not a 400GXS sublayer adjacent, meaning that the 400GBASE-ZR PCS is connected to a MAC-RS, then the value of RD in STAT<7> is set to the value of LD in STAT<8> of the received status byte in the receive direction of the 400GBASE-ZR PCS, and the value of LD in STAT<8> in the transmit direction is set to 0."
Response Response Status C
ACCEPT IN PRINCIPLE.

Add two new paragraphs at the end of 155.2.4.5.2:
"If there is an adjacent PHY 400GXS sublayer, then the value of RD in STAT<7> is equal to the value of rx_am_sf<2> from the 400GXS sublayer, and LD in STAT<8> is equal to the value of rx_am_sf<1> from the 400GXS sublayer. If there is not a 400GXS sublayer adjacent, meaning that the 400GBASE-ZR PCS is connected to a MAC-RS, then the value of RD in STAT<7> is set to the value of LD in STAT<8> of the received status byte in the receive direction of the 400GBASE-ZR PCS, and the value of LD in STAT<8> in the transmit direction is set to 0."
Response

There needs to be clarification of how the LDI fields translate to rx_am_sf<2:0> when there is an adjacent PHY 400GSX. The connection may be made via MDIO registers or in an integrated implementation as a direct hardware connection.

SuggestedRemedy

Add a paragraph: "If there is an adjacent PHY 400GSX sublayer, then the value of RD in the received STAT<7> is passed to tx_am_sf<2> in the transmit direction of the 400GSX sublayer, and LD in STAT<8> is passed to tx_am_sf<1> in the transmit direction of the 400GSX sublayer. If there is not a 400GSX sublayer adjacent, meaning that the 400GBASE-ZR PCS is connected to a MAC-LS, then the value of RD in STAT<7> is passed to the DTE management entity to indicate a remote degrade event, and LD in the received STAT<8> is passed to the RD bit in STAT<7> in the transmit direction of the 400GBASE-ZR PCS."

ACCEPT IN PRINCIPLE.

Add two new paragraphs at the end of 155.2.5.7.2:

"If there is an adjacent PHY 400GSX sublayer, then the value of RD in the received STAT<7> is passed to tx_am_sf<2> in the transmit direction of the 400GSX sublayer, and LD in STAT<8> is passed to tx_am_sf<1> in the transmit direction of the 400GSX sublayer. If there is not a 400GSX sublayer adjacent, meaning that the 400GBASE-ZR PCS is connected to a MAC-NS, then the value of RD in STAT<7> is passed to the DTE management entity to indicate a remote degrade event, and LD in the received STAT<8> is passed to the RD bit in STAT<7> in the transmit direction of the 400GBASE-ZR PCS."

Response

ACCEP IN PRINCIPLE.

Add three new paragraphs:

The details of the overhead are rather complicated, and the description may not be clear enough for a reader who is unfamiliar with the details of ITU-T FlexO technology on which all of this is based. The 400GBASE-ZR frame is based on a FlexO-4 frame, which is formed by interleaving four ~100G FlexO frame structures. The clauses about AM and Pad describe the fields after this interleaving is done, for simplicity. The overhead clause is sort of a hybrid of trying to describe the 1280-bit field that results from interleaving four 320-bit fields, but it gets complicated by the fact that all the overhead is in the first ~100G structure that uses a 4-frame multiframe. Since most readers probably are not familiar with the details of FlexO, it is probably better to introduce the overhead in terms of a 40-byte frame structure and 4-frame multiframe, and then have a separate subclause to explain how the overhead is mapped into the 400GBASE-ZR overhead field.

SuggestedRemedy

Change the title of 155.2.4.5 to "Overhead (OH)"

Add text before Figure 155-4 as follows:

The 400GBASE-ZR overhead is a 40-byte frame structure that uses a four-frame multiframe, as shown in Figure 155-4 and described in 155.2.4.5.1 through 155.2.4.5.3.

Change the text at the top of figure 155-4 from "bytes of the first 320-bit OH field" to "byte number".

Delete the paragraph after the figure and insert new subclause 155.2.4.5.4 as follows:

155.2.4.5.4 Mapping into the 400GBASE-ZR frame

The 400GBASE-ZR frame contains a 1280-bit overhead field. This field is logically composed of four 320-bit structures. The 40-byte overhead frame described in subclause 155.2.4.5 is the first such 320-bit structure. The second, third, and fourth 320-bit structures are all zeros. The four 320-bit structures are 10-bit interleaved to form the 1280-bit overhead field.

Assuming this general direction is agreeable, subsequent comments address additional changes to 155.2.4.5.x that would also be needed.

Response

ACCEP IN PRINCIPLE.

Change the title of 155.2.4.5 to "Overhead (OH)"

Add text before Figure 155-4 as follows:

The 400GBASE-ZR overhead is a 40-byte frame structure that uses a four-frame multiframe, as shown in Figure 155-4 and described in 155.2.4.5.1 through 155.2.4.5.4.

Change the text at the top of figure 155-4 from "bytes of the first 320-bit OH field" to "byte number".
Delete the paragraph after the figure and insert new subclause 155.2.4.5.4 as follows:

155.2.4.5.4 Mapping into the 400GBASE-ZR frame
The 400GBASE-ZR frame contains a 1280-bit overhead field. This field is logically composed of four 320-bit structures. The 40-byte overhead frame described in 155.2.4.5 is the first such 320-bit structure. The second, third, and fourth 320-bit structures are all zeros. The four 320-bit structures are 10-bit interleaved to form the 1280-bit overhead field.

Response

Comment ID 22
Huber, Tom Nokia
Comment Type T Comment Status A Overhead
It is better to describe the MFAS field independently of the 320-bit FlexO instances, as noted in an earlier comment.

SuggestedRemedy
Replace the text of 155.2.4.5.1 with:
The MFAS is in the first byte of the overhead frame. It is a wrapping counter that is incremented each frame to provide a 256-frame multi-frame sequence as defined by ITU-T G.709.1 Clause 9.2.1.

Response

ACCEPT.

Response ID 23
Huber, Tom Nokia
Comment Type T Comment Status A Overhead
This subclause seems to be covering two separate concepts: the STAT field of the overhead, and behavior based on detecting link faults, which should be in the receiver clause rather than the transmitter.

SuggestedRemedy
Delete the first and last paragraphs (a subsequent comment will address re-inserting this information in the clause describing the receiver)

Response

ACCEPT IN PRINCIPLE.

Delete the first and last paragraphs of 155.2.4.5.2.
Comment Type: T
Comment Status: A
Overhead

Assuming the earlier comment regarding the description of overhead is agreed, it would be beneficial to have some text explaining how the 40-byte overhead frame is recovered from the 1280-bit field (i.e. the inverse of proposed new clause 155.2.4.5.4).

Suggested Remedy
Insert a new paragraph at the end of 155.2.5.7 as follows:
The 400GBASE-ZR overhead is recovered from the 1280-bit overhead field by 10-bit de-interleaving the four 320-bit structures. The 40-byte overhead frame is the first 320-bit structure.

Response
Response Status: C
ACCEPT.

Comment ID: 26

Comment Type: T
Comment Status: A
Overhead

Comment Type: T
Comment Status: A
Overhead

Assuming the earlier comment regarding the description of overhead is agreed, the text at the top of the figure should not refer to the 320-bit OH field.

Suggested Remedy
Change text to say "byte numbers"

Response
Response Status: C
ACCEPT IN PRINCIPLE.

Change to 0-based numbering for Figure 155-9, the same as Figure 154-4, with editorial license.
Based on the comment to remove some receiver-specific text from the description of link status monitoring overhead in the transmitter, some additional text is needed here.

**SuggestedRemedy**

Add the following at the end of the subclause:
The 400GBASE-ZR PCS provides detection and signaling of link degrade for use by network equipment with re-route capabilities. Pre-FEC bit error ratio monitors within the SC-FEC decoder are used to detect and indicate link degrade at the 400GBASE-ZR optical link.

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.

**Response**

ACCEPT IN PRINCIPLE.

Add the following at the end of the 155.2.5.7.2:

"The 400GBASE-ZR PCS provides detection and signaling of link degrade for use by network equipment with re-route capabilities. Pre-FEC bit error ratio monitors within the SC-FEC decoder are used to detect and indicate link degrade at the 400GBASE-ZR optical link.

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."

**Comment Type** T  **Comment Status** A  **Comment ID** 31  **Overhead**  **Variables**

**Comment Type** E  **Comment Status** A  **Comment ID** 32  **Overhead**

There is inconsistent sentence structure in the description of the variables - some begin with "A Boolean variable.", while others omit begin with "Boolean variable.". Those that describe non-Boolean variables all begin with "A variable."

**SuggestedRemedy**

Change the sentences that begin with "Boolean variable." to begin with "A Boolean variable:"

**Response**

ACCEPT IN PRINCIPLE.

Refer to comment 31.

**Comment Type** T  **Comment Status** A  **Comment ID** 33  **Overhead**  **Variables**

Since the description of the LDI field now identifies specific bit positions, it would be more clear to state that rx_local_degraded is true when the receiver detects the value 1 in the LD bit of the STAT field (which is actually LDI<2>, per figure 155-4)

**SuggestedRemedy**

Change the first two sentences from:  
Boolean variable that is asserted true when the receiver detects LDI<1> in the STAT byte of two consecutive 400GBASE-ZR frames. It is deasserted when LDI<1> is deasserted for two consecutive frame periods.

to:

A Boolean variable that is asserted true when the receiver detects the value 1 in the LD bit of the STAT byte of two consecutive 400GBASE-ZR frames. It is deasserted when the value 0 is detected in the LD bit for two consecutive frames.

**Response**

ACCEPT.
## IEEE P802.3cw D1.3 400 Gb/s over DWDM systems 4th Task Force review comments

### Comment ID 34

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

Since the description of the LDI field now identifies specific bit positions, it would be more clear to state that rx_rm_degraded is true when the receiver detects the value 1 in the RD bit of the STAT field (which is actually LDI<1>, per figure 155-4).

**SuggestedRemedy**
- Change the first two sentences from:
  - Boolean variable that is asserted true when the receiver detects LDI<2> in the STAT byte of two consecutive 400GBASE-ZR frames. It is deasserted when LDI<2> is deasserted for two consecutive frame periods.
  - A Boolean variable that is asserted true when the receiver detects the value 1 in the RD bit of the STAT byte of two consecutive 400GBASE-ZR frames. It is deasserted when the value 0 is detected in the RD bit for two consecutive frames.

  **Response**
  - Response Status: C
  - ACCEPT.

### Comment ID 35

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

It seems like this process should be predicated on PMA alignment being achieved - there's no point in looking for the PCS AMs if the PMA is not aligned.

**SuggestedRemedy**
- Modify the output of LOCK_INIT from UCT to pma_align_status, so that the process of aligning the PCS AMs doesn't start until the PMA alignment is complete.

  **Response**
  - Response Status: C
  - ACCEPT IN PRINCIPLE.

### Comment ID 36

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>A</td>
<td>TBDs</td>
</tr>
</tbody>
</table>

TBD not in magenta. There is one more case in 155.4.2.1, 3 cases in 155.6 and multiple cases in 156.10.1.

**SuggestedRemedy**
- Change color of TBDs to magenta

  **Response**
  - Response Status: C
  - ACCEPT IN PRINCIPLE.

  Search for all TBDs and change to magenta as necessary.

### Comment ID 37

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>A</td>
<td>bucket</td>
</tr>
</tbody>
</table>

Incorrect use of C-FEC, should be CFEC as stated in 1.5.

**SuggestedRemedy**
- Change C-FEC to CFEC

  **Response**
  - Response Status: C
  - ACCEPT.

### Comment ID 38

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>A</td>
<td>bucket</td>
</tr>
</tbody>
</table>

Missing cross reference to 156.9.

**SuggestedRemedy**
- Add cross reference

  **Response**
  - Response Status: C
  - ACCEPT.
Comment Type: E  Comment Status: A

Missed cross reference to 156.9

Suggested Remedy:
Add cross reference

Response
Response Status: C
ACCEPT.

Comment Type: E  Comment Status: A

OADM is shown as an abbreviation but is not included in 1.5 of this draft or the 802.3 D3.0 revision

Suggested Remedy:
Add abbreviation to 1.5 or remove usage of abbreviation

Response
Response Status: C
ACCEPT IN PRINCIPLE.
Remove abbreviation and use "optical add-drop multiplexer or optical add-drop multiplexers".

Comment Type: E  Comment Status: A

No OADM abbreviation

Suggested Remedy:
Add abbreviation to 1.5 or fully spell out abbreviation

Response
Response Status: C
ACCEPT IN PRINCIPLE.

See response to comment 40.

Comment Type: E  Comment Status: A

Incorrect usage of CRC-32 as CRC32 is used throughout the 802.3 revision D3.0 draft.

Suggested Remedy:
To keep alignment with the new 802.3 draft standard, change CRC-32 to CRC32 throughout the draft

Response
Response Status: C
ACCEPT.

Comment Type: E  Comment Status: A

Value/Comment shown as "Meets BER specified in 156.1.1"

Suggested Remedy:
Change "in 156.1.1" to "in 156.1.1"

Response
Response Status: C
ACCEPT.
Issenhuth, Tom
Huawei

Comment Type: E  
Suggested Remedy:
   Add cross reference

Response:
   ACCEPT.