IEEE P802.11
Wireless LANs

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| Proposed resolution for miscellaneous LB270 comments – Part 3 |
| Date: 2022-12-07 |
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##### This submission present proposed resolutions for the following 13 CIDs:

3109, 3239, 3423, 3475, 3626, 3270, 3311, 3487, 3633, 3245, 3702, 3111, 3207

##### The proposed changes are based on REVme/D2.0.

##### Revision history:

##### R0 – Initial version

R1 – Proposed resolution for the following 6 CIDs are added: 3311, 3487, 3633, 3245, 3693, 3702.

R2 – Proposed resolution for the following 2 CIDs are added: 3111, 3207.

##### R3 – Updated based on the discussion on 7 December 2022 (morning session). Proposed resolution of CID 3693 is removed.

##### R4 – Proposed resolution of CID 3633 is updated.

##### R5 – Updated based on the discussion on 7 December 2022 (afternoon session).

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3109 | 11.2.3.12 | 2391 | 1 | There are several locations where "Awake Window Slot Counter" is used, this phrase should not be capitalized as the counter in not a field or element name. | Replace: "Awake Window Slot Counter" with "awake window slot counter". At the following locations: 2391.1, 2391.5, 2391.8, 2391.13, 2391.19 |

***Discussion:***

**Original text at between 2391.1 and 2391.19 in D2.0:**

Awake Windows end when the ***Awake Window Slot Counter*** reaches 0 or when the Maximum Awake

Window Duration has been reached, whichever comes first.

The ***Awake Window Slot Counter*** counts down backoff slots that are determined using AIFS[AC\_BE] in the same manner that normal backoff slots are determined according to 10.23.2.4 (Obtaining an EDCA TXOP).

The initial value of the ***Awake Window Slot Counter*** at the start of the Awake Window shall be equal to the value in the Awake Window Slots field of the Wakeup Schedule element that is contained in the TDLS Peer PSM Request frame that established TDLS peer PSM operation on the link.

The ***Awake Window Slot Counter*** begins counting at the beginning of the Awake Window and stops counting when it reaches 0.

A value of 0 in the Maximum Awake Window Duration field of the Wakeup Schedule element that is contained in the TDLS Peer PSM Request frame that established TDLS peer PSM operation on the link means that the end of the Awake Window duration is determined only by the ***Awake Window Slot Counter***.

Agree with the commenter that the phrase “Awake Window Slot Counter” should not be capitalized.

***Proposed resolution for CID 3109:***

Accepted.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3239 | 15.2.3 | 3113 | 46 | "SIGNAL shall represent the data rate at which the current PPDU was received. " should be "The SIGNAL parameter represents ..." Also below should be "The X parameter ..." | Change 3113.46-62 toThe SIGNAL parameter represents the data rate at which the current PPDU was received.The SERVICE parameter shall be null.The SQ parameter provides to the MAC entity the signal quality of the DSSS PHY PN code correlation. The signal quality shall besampled when the DSSS PHY achieves code lock and shall be held until the next code lock acquisition. The signal quality may be used in conjunction with RSSI as part of a CCA scheme.The RX\_ANTENNA parameter reports the antenna used by the PHY for reception of the most recent PPDU.(#1373)The RX\_START\_FRAME\_OFFSET parameter is an estimate of the offset (in 10 ns units) from the point in time atwhich the start of the preamble (#14)of the PPDU arrived at the receive antenna connector to the point intime at which this primitive is issued to the MAC. |

***Discussion:***

**Original text between 3116.46 and 3116.42 in D2.0:**

SIGNAL shall represent the data rate at which the current PPDU was received.

The SERVICE parameter shall be null.

SQ provides to the MAC entity the signal quality of the DSSS PHY PN code correlation. The SQ shall be sampled when the DSSS PHY achieves code lock and shall be held until the next code lock acquisition.

The SQ may be used in conjunction with RSSI as part of a CCA scheme.

RX\_ANTENNA reports the antenna used by the PHY for reception of the most recent PPDU.

RX\_START\_FRAME\_OFFSET is an estimate of the offset (in 10 ns units) from the point in time at which the start of the preamble of the PPDU arrived at the receive antenna connector to the point in time at which this primitive is issued to the MAC.

**Proposed changes from the commenter are highlighted in red, underline, and bold below:**

**The** SIGNAL **parameter** shall represent the data rate at which the current PPDU was received.

The SERVICE parameter shall be null.

**The** SQ **parameter** provides to the MAC entity the signal quality of the DSSS PHY PN code correlation. The **~~SQ~~signal quality** shall be sampled when the DSSS PHY achieves code lock and shall be held until the next code lock acquisition. The **~~SQ~~signal quality** may be used in conjunction with RSSI as part of a CCA scheme.

**The** RX\_ANTENNA **parameter** reports the antenna used by the PHY for reception of the most recent PPDU.

**The** RX\_START\_FRAME\_OFFSET **parameter** is an estimate of the offset (in 10 ns units) from the point in time at which the start of the preamble of the PPDU arrived at the receive antenna connector to the point in time at which this primitive is issued to the MAC.

Agree with the commenter on the proposed change.

***Proposed resolution for CID 3239:***

Accepted.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3423 | 22.2.4 | 3524 | 50 | "Non-HT PPDU format is same as in Figure 17-1 (PPDU format). Overview of the PPDU encoding processis defined in 17.3.2.2 (Overview of the PPDU encoding process) except for following modifications: " is grotesquely garbled ("format is same as figure"? Missing articles) | Change to "Non-HT PPDU format is shown in Figure 17-1 (PPDU format). The PPDU encoding processis defined in 17.3.2.2 (Overview of the PPDU encoding process) except for the following modifications: " |

***Discussion:***

**Original text at 3524.50 in D2.0:**

Non-HT PPDU format is same as in Figure 17-1 (PPDU format). Overview of the PPDU encoding process is defined in 17.3.2.2 (Overview of the PPDU encoding process) except for following modifications:

**Proposed changes from the commenter are highlighted in red, underline, and bold below:**

Non-HT PPDU format is **~~same~~shown** **~~as~~** in Figure 17-1 (PPDU format). **~~Overview of the~~The** PPDU encoding process is defined in 17.3.2.2 (Overview of the PPDU encoding process) except for **the** following modifications:

Agree with the commenter on the proposed change.

***Proposed resolution for CID 3423:***

Accepted.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3475 | 20 |  |  | "of a received PPDU" in 8.3.5.14.2 (570.3) and 28.3.9.2 (4315.14) should be "of the received PPDU"; in Table 20-1 (3336.22) and 23-1 (3574.11) and 28-1 (4248.35) it should be "of the current PPDU" | As it says in the comment |

***Discussion:***

Original text at 570.3 in D2.0 that the commenter proposes to replace “of a received PPDU” with “of the received PPDU”:



Original text at 4315.14 in D2.0 that the commenter proposes to replace “of a received PPDU” with “of the received PPDU”:



Original text at 3336.22 in D2.0 that the commenter proposes to replace “of a received PPDU” with “of the current PPDU”:



Original text at 3574.11 in D2.0 that the commenter proposes to replace “of a received PPDU” with “of the current PPDU”:



Original text at 4248.35 in D2.0 that the commenter proposes to replace “of a received PPDU” with “of the current PPDU”:



Agree with the commenter on the proposed change.

***Proposed resolution for CID 3475:***

Accepted.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3626 |  |  |  | "The <blah> PPDU is composed of <blah>. This is shown in <blah>." has high risk of spec rot/inconsistency | Change to "The DMG control mode PPDU is composed of the Preamble, Header, Data field, and possibly AGC andTRN subfields. This is shown in Figure 20-6 (DMG control mode PPDU format)." to "The DMG control mode PPDU is shown in Figure 20-6 (DMG control mode PPDU format)." at 3653.50 and make similar changes for other instances of "PPDU is composed of"s |

***Discussion:***

While I agree with the commenter on the comment, the example the commenter provided has been addressed:



**Original text at 3352.26 in D2.0:**

An SC PPDU is composed of the Short Training field (STF), the channel estimation field (CE), the Header, SC blocks and optional training fields, as shown in Figure 20-8 (SC PPDU format(#14)).

**Original text at 3377.3 in D2.0:**

Each BRP PPDU is composed of an STF, a CE field, and a Data field followed by an AGC field and a TRN field. This is shown in Figure 20-20 (BRP PPDU structure).

**Original text at 3718.51 in D2.0:**

The CDMG control mode PPDU is composed of the Preamble, Header, Data field, and possibly AGC and TRN subfields. This is shown in Figure 24-4 (CDMG control mode PPDU format).

**Original text at 3721.30 in D2.0:**

An SC PPDU is composed of the Short Training field (STF), the Channel Estimation (CE) field, the Header, SC blocks and optional training fields, as shown in Figure 24-6 (SC PPDU format).

**Original text at 3763.24 in D2.0:**

The CMMG control mode PPDU is composed of CMMG control mode STF, CMMG control mode CEF, CMMG control mode SIG, CMMG control mode Data field, and possibly AGC and TRN-R/T subfields. This is shown in Figure 25-13 (CMMG control mode PPDU format).

**Original text at 3799.24 in D2.0:**

Each BRP PPDU is composed of an STF, a CEF, and a Data field followed by a training field containing an AGC field and a receiver training field.

***Proposed resolution for CID 3626:***

Revised. Incorporate the changes as shown in 11-22/2071r3 (<https://mentor.ieee.org/802.11/dcn/22/11-22-2071-03-000m-proposed-resolution-for-miscellaneous-lb270-comments-part-3.docx>).

At 3352.26 in D2.0, change as follows:

An SC PPDU is **~~composed of the Short Training field (STF), the channel estimation field (CE), the Header, SC blocks and optional training fields, as~~** shown in Figure 20-8 (SC PPDU format).

At 3377.3 in D2.0, change as follows:

Each BRP PPDU is **~~composed of an STF, a CE field, and a Data field followed by an AGC field and a TRN field. This is~~** shown in Figure 20-20 (BRP PPDU structure).

At 3718.51 in D2.0, change as follows:

The CDMG control mode PPDU is **~~composed of the Preamble, Header, Data field, and possibly AGC and TRN subfields. This is~~**shown in Figure 24-4 (CDMG control mode PPDU format).

At 3721.30 in D2.0, change as follows:

An SC PPDU is **~~composed of the Short Training field (STF), the Channel Estimation (CE) field, the Header, SC blocks and optional training fields, as~~** shown in Figure 24-6 (SC PPDU format).

At 3763.24 in D2.0, change as follows:

The CMMG control mode PPDU is **~~composed of CMMG control mode STF, CMMG control mode CEF, CMMG control mode SIG, CMMG control mode Data field, and possibly AGC and TRN-R/T subfields. This is~~** shown in Figure 25-13 (CMMG control mode PPDU format).

At 3799.24 in D2.0, change as follows:

Each BRP PPDU is **~~composed of an STF, a CEF, and a Data field followed by a training field containing an AGC field and a receiver training field~~ shown in Figure 25-28 (BRP PPDU structure)**.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3270 | 12 |  |  | sometimes it's "ciphersuite", sometimes "cipher-suite", sometimes "cipher suite" | Pick one ("cipher suite" is by far the most popular) and change the others (I can provide locations) |

***Discussion:***

In D2.0, there are

* 246 appearances of “cipher suite”
* 6 appearances of “cipher-suite” (2888.65, 2889.52, 2891.39, 2891.48, 2927.62, 3041.27)
* 4 appearances of “ciphersuite” (754.19 [x2], 3045.4, 4957.26)

Agree with the commenter on the proposed change for the sake of consistency.

***Proposed resolution for CID 3270:***

Revised.

At 2888.65, 2889.52, 2891.39, 2891.48, 2927.62, 3041.27, replace “cipher-suite” with “cipher suite”.

At 754.19 [x2], 3045.4, 4957.26, replace “ciphersuite” with “cipher suite”.

At 2913.31 and 2916.7, replace “Cipher-suite” with “Cipher suite”.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3311 | 11.21.15 |  |  | "Channel Usage" should be lowercase | Lowercase (except C if at start of sentence etc.) at 375.20, 387.55 (rightmost), 397.32 (rightmost), 1636.42, 2109.13, 2602.36/37/40(2x)/59/61/63/64, 2603.24, 2604.2(2x)/28, 4774.61, 4988.12/25/26, 5770.32 |

***Discussion:***

Original text at 375.20 in D2.0:



Original text at 387.55 in D2.0:



Original text at 397.32 in D2.0:



Original text at 1636.42 in D2.0:



Original text at 2109.13 in D2.0:



Original text at 2602.36(x1)/2602.37(x1) in D2.0:



Original text at 2602.40(2x) in D2.0:



Original text at 2602.59(x1)/2602.61(x1)/2602.63(x1)/2602.64(x1) in D2.0:



Original text at 2603.24 in D2.0:



Original text at 2604.2(2x) in D2.0:



Original text at 2604.28 in D2.0:



Original text at 4774.61 in D2.0:



Original text at 4988.12 in D2.0:



Original text at 4988.25/4988.26 in D2.0:



Original text at 5770.32 in D2.0:



***Proposed resolution for CID 3311:***

Revised.

Replace “Channel Usage” with “channel usage” at 387.55 (rightmost), 397.32 (rightmost), 1636.42, 2109.13, 2602.36/37/40(2x)/59/61/63/64, 2603.24, 2604.2(2x)/28, 4988.12/25/26, 5770.32.

Replace “Channel Usage” with “Channel usage” at 375.20 and 4774.61.

Note to the commenter: These are the exact locations provided by the commenter.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3487 | 10.23.5.1 | 1922 | 26 | "concatenating the Page Index subfield and the RAW Start AID in the RAW Group subfield" should be "concatenating the Page Index subfield and the RAW Start AID subfield in the RAW Group subfield". Ditto add " subfield" after "RAW End AID" on the next line | As it says in the comment |

***Discussion:***

Original text at 1922.26 in D2.0:



The commenter is correct that the phrase “subfield” is missing after “RAW Start AID” at 1922.26 and “RAW End AID” at 1922.28.

***Proposed resolution for CID 3487:***

Accepted.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3633 | 12 |  |  | "= Not present" is weird | Change to "not present" and then put the "=" later on if needed, e.g. "Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL) - MICcomputed over the body of this EAPOL-Key frame with the Key MIC field first initialized to 0" -> "Key MIC not present when using an AEAD cipher; otherwise = MIC(KCK, EAPOL) - MICcomputed over the body of this EAPOL-Key frame with the Key MIC field first initialized to 0" (I can provide locations) |

***Discussion:***

The commenter uses the following as an example (though I cannot find the exact location in D2.0 on “MIC computed over the body of this EAPOL-Key frame with the Key MIC field first initialized to 0”.

The commenter proposes to replace

“Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL) – MIC computed over the body of this EAPOL-Key frame with the Key MIC field first initialized to 0”

with

 “Key MIC not present when using an AEAD cipher; otherwise = MIC(KCK, EAPOL) – MIC computed over the body of this EAPOL-Key frame with the Key MIC field first initialized to 0”

Nevertheless, there are 5 appearances in D2.0 related to this comment.

Original text at 2913.39:



Original text at 2914.32:



Original text at 2916.16:



Original text at 2918.45:



Original text at 2923.57:



Original text at 2925.6:



If the task group agrees with the direction of the commenter, an alternative proposed resolution is to follow the other existing “otherwise” statement as follows.



At 2913.39:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise 0”

with “Key MIC = Not present when using an AEAD cipher or 0 otherwise”

At 2914.32:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL)”

with “Key MIC = Not present when using an AEAD cipher or MIC(KCK, EAPOL) otherwise”

At 2916.16:

Replace “Key MIC = Not present when using an AEAD cipher; or otherwise, MIC(KCK, EAPOL)”

with “Key MIC = Not present when using an AEAD cipher or MIC(KCK, EAPOL) otherwise”

At 2918.45:

Replace “Key MIC = Not present when using an AEAD cipher; or otherwise, MIC(KCK, EAPOL)”

with “Key MIC = Not present when using an AEAD cipher or MIC(KCK, EAPOL) otherwise”

At 2923.57:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL)”

with “Key MIC = Not present when using an AEAD cipher or MIC(KCK, EAPOL) otherwise”

At 2925.6:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL)”

with “Key MIC = Not present when using an AEAD cipher or MIC(KCK, EAPOL) otherwise”

***Proposed resolution for CID 3633:***

Revised.

At 2913.39:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise 0”

with “Key MIC = 0; or not present when using an AEAD cipher”

At 2914.32:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL)”

with “Key MIC = MIC(KCK, EAPOL); or not present when using an AEAD cipher”

At 2916.16:

Replace “Key MIC = Not present when using an AEAD cipher; or otherwise, MIC(KCK, EAPOL)”

with “Key MIC = MIC(KCK, EAPOL); or not present when using an AEAD cipher”

At 2918.45:

Replace “Key MIC = Not present when using an AEAD cipher; or otherwise, MIC(KCK, EAPOL)”

with “Key MIC = MIC(KCK, EAPOL); or or not present when using an AEAD cipher”

At 2923.57:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL)”

with “Key MIC = MIC(KCK, EAPOL); or not present when using an AEAD cipher”

At 2925.6:

Replace “Key MIC = Not present when using an AEAD cipher; otherwise, MIC(KCK, EAPOL)”

with “Key MIC = MIC(KCK, EAPOL); or not present when using an AEAD cipher ”

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3245 | 12.7.9.4 | 2934 | 17 | "CheckMIC(). he Supplicant invokes "; "336 bits such that he" (also 390 below); first row of Table 27-53--HE PHY MIB attributes; ""he Transmit MCS supported by the PHY" | Change "he" to "The" at 2934.17, 3360.27/40, 5320.31. At 4190.23 change it to "he(14)" |

***Discussion:***

Original text at 2934.17 in D2.0:



Original text at 3360.27 in D2.0:



Original text at 3360.40 in D2.0:



Original text at 5320.31 in D2.0:



Original text at 4190.23 in D2.0:



***Proposed resolution for CID 3245:***

Accepted.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3702 |  |  |  | "Std" is haphazardly present after "IEEE" and before "802" | I can provide locations if I'm told what the rule is for when it's needed |

***Discussion:***

To answer the commenter’s question, the phrase “IEEE 802” is used if a generic reference to 802 is needed and the phrase “IEEE Std 802” is used if a reference to “Std 802” is needed.

For example:

IEEE 802 protocols rather than IEEE Std 802 protocols. It is because this is a reference to 802 protocols generically, not the protocols in Std 802.

“IEEE Std 802.11 operation” rather than “IEEE 802.11 operation”. It is because this is a reference to the operation in the standards.

***Proposed resolution for CID 3702:***

Rejected

The IEEE publication editor reviews the draft to ensure “Std” is used in the appropriate places.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3111 |  | 3043 | 48 | Key Replay Counter "field" is missing its noun in multiple locations. | Replace: "Verify that the Key Replay Counter has not yet been seen before, ..." with: "Verify that the Key Replay Counter field value has not yet been seen before, ..."Also the following similar changes should be made:At 3044.15 Replace "The Key Replay Counter shall ..." with "The Key Replay Counter field shall ..."At 3044.44 Replace "Verify that the Key Replay Counter field value matches ..." with "Verify that the Key Replay Counter value matches ..."3044.48 Replace "...new Mesh Group KeyInform frame with a new Key Replay Counter value." with "... new Mesh Group KeyInform frame with a new Key Replay Counter field value."At 3044.51 Replace ".... a new Mesh Group Key Inform frame with a new Key Replay Counter value." with ".... a new Mesh Group Key Inform frame with a new Key Replay Counter field value." |

***Discussion:***

**Original text at 3043.48 in D2.0:**



The commenter proposed to change “the Key Replay Counter” with “the Key Replay Counter **field value**”.

**Original text at 3044.15 in D2.0:**



The commenter proposed to change “The Key Replay Counter” with “The Key Replay Counter **field**”.

**Original text at 3044.44 in D2.0:**



The commenter proposed to change “the Key Replay Counter value” with “The Key Replay Counter **field** value”.

**Original text at 3044.48 in D2.0:**



The commenter proposed to change “a new Key Replay Counter value” with “a new Key Replay Counter **field** value”.

**Original text at 3044.51 in D2.0:**



The commenter proposed to change “a new Key Replay Counter value” with “a new Key Replay Counter **field** value”.

***Proposed resolution for CID 3111:***

Revised.

**Original text at 3043.48 in D2.0:**

Change “the Key Replay Counter” with “the Key Replay Counter **field**”.

**Original text at 3044.15 in D2.0:**

Change “The Key Replay Counter” with “The Key Replay Counter **field**”.

**Original text at 3044.44 in D2.0:**

Change “the Key Replay Counter value” with “The Key Replay Counter **field**”.

**Original text at 3044.48 in D2.0:**

Change “a new Key Replay Counter value” with “a new Key Replay Counter **field**”.

**Original text at 3044.51 in D2.0:**

Change “a new Key Replay Counter value” with “a new Key Replay Counter **field**”.

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| CID | Clause | Page | Line | Comment | Proposed Change |
| 3207 | 12.4 |  |  | Why is PWE sometimes or always italic and bold in e.12.4.4.2.2, 12.4.5.2/3/4, 12.4.8.6.3? | Make it nonbold roman in all cases |

***Discussion:***

Example at 2812.35 in subclause 12.4.4.2.2:



Locations in D2.0:

2812.35, 2812.53, 2812.58, 2812.61 (x2), 2812.62, 2813.1, 2813.37, 2813.40, 2819.62, 2820.23, 2820.29, 2820.40, 2820.45, 2821.40, 2831.37, and 2831.55.

***Proposed resolution for CID 3207:***

Revised.

At 2812.35, 2812.53, 2812.58, 2812.61 (x2), 2812.62, 2813.1, 2813.37, 2813.40, 2819.62, 2820.23, 2820.29, 2820.40, 2820.45, 2821.40, 2831.37, and 2831.55, update the style of PWE from bold and italic to nonbold and nonitalic.