

### **Editorial Comment Bucket**

Contributors: MLandry, et. al.

# Agenda

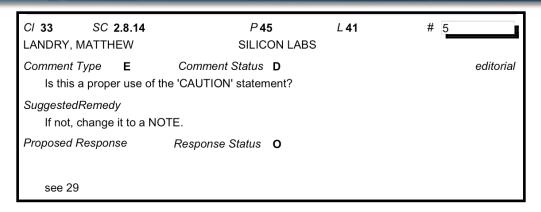
- Patent Policy
  - http://standards.ieee.org/board/pat/pat-slideset.pdf
- Comments



### **Comment Bucket Buckets**

- Easy stuff
  - Comments 5, 134, 253, 131
- Medium stuff
  - > Comments 162, 140, 135, 136
- Classification stuff
  - > Comments 168, 199, 173





- "CAUTION" usage defined by the IEEE Standards Style Manual
  - http://standards.ieee.org/guides/style/section7.html#1537
  - "Cautions call attention to methods and procedures that have to be followed to avoid damage to equipment."
- Text in question:

**CAUTION**—When connected together as a system, the PSE and PD might exhibit instability at the PSE side or the PD side or both due to the presence of negative impedance at the PD input. See Annex 33D for PSE design guidelines to ensure stable operation.

- This does not seem to meet the criteria of a CAUTION. Power supply oscillation is unfortunate and should be prevented, but will not necessarily cause damage.
- Change this "CAUTION" to a "NOTE."

CI 33 SC 2.8 P40 L23 # 134
Schindler, Fred Cisco Systems

Comment Type E Comment Status D editorial
Consider using "k" or something other than "V" to convey that a constant is being used.

SuggestedRemedy
Suggest using "KTran\_lo."

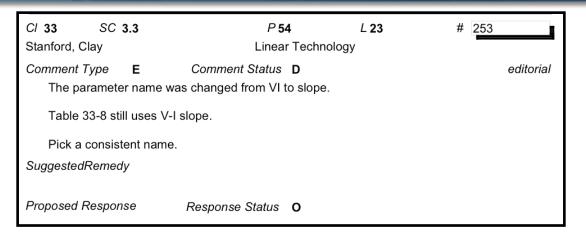
Proposed Response Response Status O

### Text in question

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$							
	2a	halam V min	Tran lo	%	7.6	2	See 33.2.8.2b

- ◆ The usage of 'V' implies a voltage, whereas this term is only a percentage of a voltage.
- Accept the proposed remedy and update references

1			1				
	2a	Voltage transient below V <sub>Port</sub> min	K <sub>Tran_lo</sub>	%	7.6	2	See 33.2.8.2b

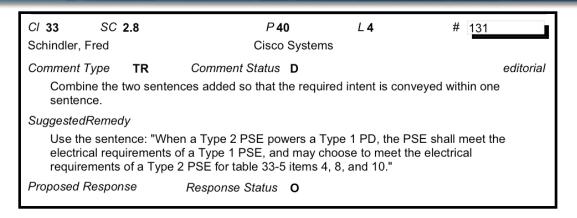


 Parameter name was changed to better fit equation formatting requirements.

V-I slope = 
$$(V_2 - V_1)/(I_2 - I_1)$$
  $\longrightarrow$   $slope = (V_2 - V_1)/(I_2 - I_1)$ 

- Use of "V-I slope" in Table 33-8 is informative to reader, however.
- Can change definition to clarify that slope is the V-I slope "slope is the effective resistance"

"slope is the V-I slope and effective resistance of the PD detection signature"



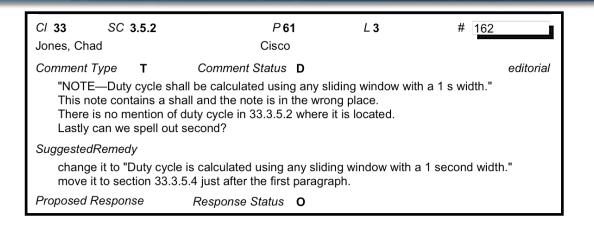
### Original text

When a Type2 PSE powers a Type1 PD, the PSE shall meet the electrical requirements of a Type1 PSE. Such a PSE may choose to meet the electrical requirements of a Type2 PSE for Table 33-5 items 4, 8, and 10.

#### Proposed text

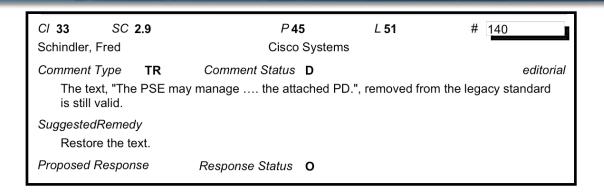
- ➤ When a Type2 PSE powers a Type1 PD, the PSE shall meet the electrical requirements of a Type1 PSE and may choose to meet the electrical requirements of a Type2 PSE for Table 33-5 items 4, 8, and 10.
- The proposed wordsmithing seems clearer and does not change the intent.





- This NOTE came about from D0.9/#192.
- ◆ 33.3.5.2 describes "input average power," which is why "duty cycle" is a non sequitur.
- "Shall" statements do not belong in a NOTE.
- Spelling out "s" as "second" can't hurt.
- Amend the NOTE to read:
  - ➤ NOTE—Average power is calculated using any sliding window with a width of 1 second.
- ◆ Still need to provide the clarification of what a duty cycle is per D0.9/#192. Suggest adding another NOTE in 33.3.5.4:
  - NOTE—The duty cycle of the peak current is calculated using any sliding window with a width of 1 second.





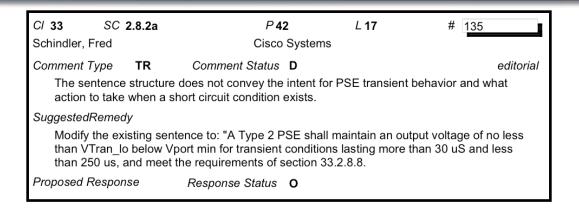
- This text was removed per D0.9/#148.
- Original text:

The PSE may manage the allocation of power based on additional information beyond the classification of the attached PD. Allocating power based on additional information about the attached PD, and the mechanism for obtaining that additional information, is beyond the scope of this standard with the exception that the allocation of power shall not be based solely on the historical data of the power consumption of the attached PD.

- The second sentence is no longer true because of DLL classification.
- The first sentence, while true, seems extraneous.
- Leave it alone (deleted) or add 1st sentence back into draft?

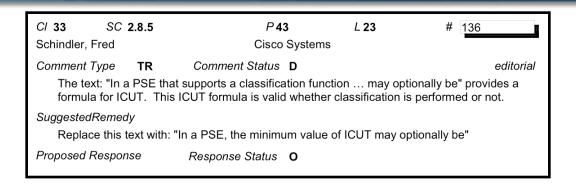
The PSE may manage the allocation of power based on additional information beyond the classification of the attached PD.





#### Original text:

- ➤ A Type2 PSE shall maintain an output voltage no less than V<sub>Tran\_lo</sub> % below V<sub>Port</sub> min for transient conditions lasting more than 30µs and less than 250µs.
- This text does not explicitly link transient behavior with short circuit behavior.
- Proposed text:
  - ➤ A Type2 PSE shall maintain an output voltage no less than V<sub>Tran\_lo</sub> % below V<sub>Port</sub> min for transient conditions lasting more than 30µs and less than 250µs, and meet the requirements of 33.2.8.8.

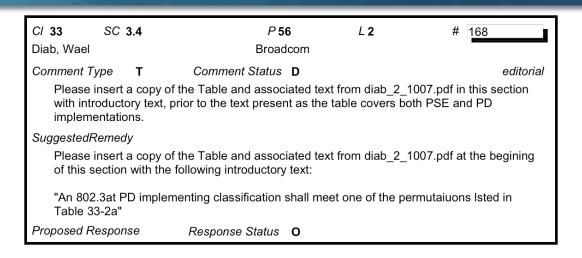


#### Original text:

- ➤ In a PSE that supports a classification function (33.2.7 and/or 33.6), the minimum value of I<sub>CUT</sub> may optionally be P<sub>Class</sub>/Vportmin
- P<sub>Class</sub> is always defined for a PSE, regardless of whether it is Type1 or Type2, if it implements 1-Event, 2-Event, or 0-Event.
- It is therefore unnecessary to restrict I<sub>CUT</sub> scaling to PSEs implementing classification.
- ◆ This is a "may" statement, so removing the narrowing clause will not affect the installed base.
- Proposed text:
  - ➤ In a PSE, the minimum value of I<sub>CUT</sub> may optionally be...



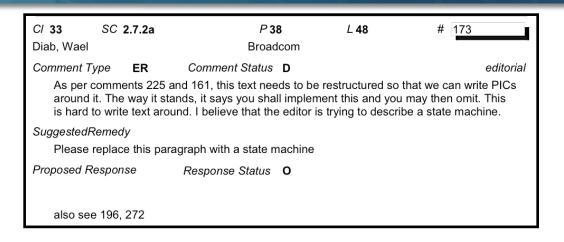
#### **Classification Comment 168**



- ◆ The permutation table is found in 33.2.7 as Table 33-2a.
- ◆ Reproducing it in 33.3.4 seems unnecessary.
- D1.0/#159 updates the table and adds a normative statement to 33.2.7:
  - ➤ "A PSE or a PD shall meet one of the allowable classification permutations listed in Table 33-2a."
- The first sentence of 33.3.4 directs the reader to go back and review 33.2.7.
- OBE?



### **Classification Comment 173**



- Figure 33-7c describes the state change and decision making procedure of 2-Event classification
- 33.2.7.2a describes the same, but also has normative text referring to the details of the voltage probes
- For clarity, the text can be modified to refer to the state diagram (as the PD section does), and still maintain details on the voltage probing



#### **Classification Comment 199**

C/ 33 SC 3.1a P 50 L 5 199 Diab, Wael Broadcom Comment Type Comment Status D This section does not accurately reflect the decisions we made in October. Specifically, it mandates that a Type PD implement classification, which breaks 802.3-2005. Moreover, it rules out certain combinations that the table in diab 2 1007.pdf allows, like classifying a Type 2 PD using one event classification and DLL. It is very difficult to retain this wording here as it is without getting into classification. SuggestedRemedy Rewrite this section as follows: PDs can be categorized as either Type 1 or Type 2 (refer to 1.4). PDs may also implement Physical Layer Classification and/or Data Link Layer Classification. Permutations allowed by the standard are covered in section 33.3.4. A Type 2 PD is required to achieve mutual identification with a Type 2 PSE as described in section 33.4. A Type 2 PD that does not achieve mutual identification shall conform to Type 1 PD power restrictions. Such a PD shall provide the user with local external notification that it is underpowered. The external notification mechanism is left to the implementor.

Response Status 0

#### Text in question:

Proposed Response

PDs can be categorized as either Type 1 or Type 2.

Type 1 PDs may optionally implement Type 1 1-Event Physical Layer classification. This limits the maximum power the PD may expect to draw from a PSE to 12.95 W Pport max as defined in Table 33–12.

Type 2 PDs shall implement both Type 2-2-Event Physical Layer classification and Data Link Layer classification. This limits the maximum power a PD may expect to draw from a PSE to 29.5 W P<sub>Port</sub> max as defined in Table 33–12.

A Type 2 PD that does not successfully observe a 2-Event Physical Layer classification or Data Link Layer classification must conform to Type 1 PD power restrictions. Such a PD shall provide the user with local external notification that it is underpowered. The external notification mechanism is left to the implementor.

- 33.3.1 should be descriptive.
- As commented, it is also difficult to get too descriptive without getting into classification.
- To inform but not complicate, this generic description of a PD should not contain normative text.
- The Type 2 normative shall statement is out of place and should be removed.
- The Type 1 PD description doesn't "break 802.3-2005."
  - > This isn't a normative statement
  - It is physically impossible for a PD to not return a classification signature
- The comment also tries to add some normative text we have not yet discussed

