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Comments from Delta Energy Systems (Germany) GmbH on  
**Energy Star External Power Supplies Eligibility Criteria (Version 2.0) Revised Final**

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Energy Star External Power Supplies Eligibility Criteria (Version 2.0) Revised Final Draft requires a Power factor (PF) of  $PF \geq 0.9$  for external power supplies with an input power of greater or equal 100W.

In the range of 100W output power several active measures might be taken to achieve good harmonic ripple reduction and achieving good power factor as well. The most common used technology is by using input current shaper as an own power stage thus requiring an additional power stage for converting the voltage and providing the galvanic isolation between input and output. Yet this two stage solution suffers from higher costs and lower efficiency compared to single stage solutions which provide input (line) current shaping and galvanic isolation in one power stage only. The draw back of these single stage solutions is a somewhat lower power factor as in two stage approach.

Taking into account the perspective of the Energy Star initiative Delta Energy Systems propose to change:

*In addition to the Active Mode efficiency requirements found above, all qualifying power supplies with greater than or equal to 100W input power must have a true power factor of 0.9 or greater at a 100% of rated load.*

to:

*In addition to the Active Mode efficiency requirements found above, all qualifying power supplies with greater than or equal to 100W output power must have a true power factor of 0.9 or greater at 100W output power or higher.*

In this case any condition of output power equal to or greater than 100W and up to 250W is covered by this standard. Also all power supplies not serving power factor by use of active current correction (i.e. passive PFC) are excluded from the Energy Star program.

Best regards

Delta Energy Systems (Germany) GmbH  
R&D

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