



**KYLE PITSOR**

Vice President, Government Relations

March 9, 2012

VIA EMAIL TO: [UPS@energystar.gov](mailto:UPS@energystar.gov)

Mr. Robert Meyers  
Environmental Protection Agency  
Energy Star Product Development  
1310 L Street, NW  
Washington, DC 20005

**NEMA Comments on Energy Star Program Requirements Specification for UPS Eligibility Criteria Pre-Final Draft**

Dear Mr. Meyers,

Thank you for the opportunity to provide the following comments on the pre-Final draft of the Energy Star Specification requirement for Uninterruptible Power Supplies (UPS) Version 1.0. These comments are submitted on behalf of the UPS Committee of the NEMA Power Electronics Section.

As you may know, NEMA is the association of electrical equipment manufacturers, founded in 1926 and headquartered in Arlington, Virginia. Its member companies manufacture a diverse set of products including power transmission and distribution equipment, lighting systems, factory automation and control systems, and medical diagnostic imaging systems. Worldwide annual sales of NEMA-scope products exceed \$120 billion.

Thank you for your consideration of these comments. We look forward to working with you further on this important project. If you have any questions on these comments, please contact Alex Boesenberg of NEMA at 703 841 3268 or [alex.boesenberg@nema.org](mailto:alex.boesenberg@nema.org).

Sincerely,

A handwritten signature in black ink that reads "Kyle Pitsor". The signature is written in a cursive, flowing style.

Kyle Pitsor  
Vice President, Government Relations

**National Electrical  
Manufacturers Association**

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## **NEMA Comments on Energy Star Program Requirements Specification for UPS Eligibility Criteria Pre-Final Draft and Test Method**

NEMA appreciates the partnership that is evidenced by the close collaboration of EPA and industry for this program. We note our support of the below topics from the latest revision and webinar discussion.

- Test Method
  - Providing testing guidance via publically available documents (beyond the user manual)
  - Suppressing alarms related to battery disconnection for testing
  - Performing stability check during final 20 minutes of stabilization period
  - Changing stability check to be based on efficiency (not power)
  - Clarifications to Energy Sampling Method ( $\leq 1$  Hz rate)
  - Average power and efficiency calculation examples
  - Clarification that Input Power Factor measurement is only required with 100% PF=1.0 load
- Multiple Normal Mode UPS
  - Requiring only UPS that pass because of the weighting formula to ship in eco-mode
  - Not requiring declaration of longest transfer time
    - Not efficiency related
    - Not in the test method
- Metering
  - Communications requirements are reasonable
  - Agree that displays should not be required
- Modular UPSs
  - Agree that manufacturers should be able to declare min and max configuration for testing and qualification
- PPDS
  - Agree with changes and that further work should be done after specification finalization

NEMA is concerned about some of the changes proposed in the latest draft of the V1 specification. Some manufacturers have already begun redesign to the v3 specification draft and we also would caution EPA from trying for the tightest spec possible on the inaugural run. We contend it is better to write a spec which saves energy and at the same time encourages participation. Partners having made the investment in the program, future revisions of the specification could address areas where industry and technology need some time to catch up.

NEMA opposes the following and offers these suggestions:

- We oppose the across the board VFI efficiency level change of +1%. We understand the EPA's desire to address smaller units and market share concerns. We propose instead that the class be broken in two, since larger units are well addressed by the change. EPA shouldn't make dramatic changes this late in the game
  - Leave the Draft 3 formula in place for  $VFI > 10\text{kW}$  ( $0.0099 \cdot \ln(P) + 0.805$ )
  - See table below
- NEMA opposes reduction of metering credit from 2% to 1%
  - Propose leaving 2% credit in place in light of increased metering accuracy and communication requirements already in the specification. Since EPA is asking for more metering and metering accuracy, some leeway of a 2% credit is a fair compromise.

- The 2% accuracy (inclusive of both meter and transducers) and conformance to non-accuracy aspects of IEC and ANSI metering standards will be impractical for meters built into UPSs
  - Likely results are that very few UPSs will qualify for the metering credit and only standalone meters will qualify unless requirements are relaxed
  - NEMA proposes that rather than reference multiple standards for accuracy of the energy readings, EPA should require a power measurement system accuracy of +/- 5% for loads above 25%. We note that this metering is related to the ENERGY STAR Data Center program, but those specifications are still emerging. An accuracy level of +/- 5% for loads above 25% is a reasonable level until the ES Data Center specs are completed and in lieu of requiring a long list of international metering standards which also have numerous non-energy requirements and other features which would be burdensome for manufacturers and certification bodies to work through.

Per our comment above about VFI units, NEMA proposes the following efficiency levels:

Output Power	Input Dependency		
	VFD	VI	VFI
$P \leq 1.5 \text{ kW}$	0.965	0.965	$0.0099 \times \ln(P) + 0.81$
$1.5 \text{ kW} < P \leq 10 \text{ kW}$	0.97	0.965	$0.0099 \times \ln(P) + 0.81$
$P > 10 \text{ kW}$	0.97	0.95	$0.0099 \times \ln(P) + 0.805$