

**Comments from the CEMEP on the EPA ENERGY STAR® for UPS
Draft 2 (V1.0) documents (Product Specification and Test Method for UPS)**

Comments on Product Specification - Eligibility Criteria Draft 2 V1.0:

* All definitions and classifications have to refer, when existing, to IEC 62040-3 Ed 2 (April 2011). Very good changes in this way have been made in this Draft 2 version. Still we would like to re-insist on the fact that all this definitions and classifications have been elaborated for Static UPSs only. As the scope of this EPA document is including Rotary UPSs and because there's no International Standard for Rotary UPSs to give as reference, there is a need to validate that all definitions, classification and measurement methods are also applicable to Rotary UPS. It could be misleading for customer to compare efficiency data from different products where for some technologies it would not be very strictly defined.

* For "Application" definitions we find the draft 2 classification of applications below 1500W as "Consumer" only is too restrictive. UPS models from 1000VA to 1500VA are used in commercial applications. They are typically deployed as protection for a single rack of IT equipment. Each of the product capabilities (VFD, VI, VFI) are well represented in the market and provides differentiated features linked to the core function of UPS (power quality) that request differentiated approach of efficiency.

→ We would suggest adding one class with the power limits as follow:

- Consumer UPS: $P \leq 800 \text{ W}$
- Mixed Use UPS: $800 < P \leq 3000$
- Commercial UPS: $3000 < P \leq 10,000$
- Data Center UPS: $P > 10,000$

* EPA Efficiency Requirement proposed in Draft 2 for Consumer UPS is 97% for all UPS Input Dependency types. This is not technically realistic for the VFI with current state of art and available products on the market.

→ We definitely think that same Efficiency curve ($0.0099 \times \ln(P) + 0.805$) shall be applied to VFI type from Consumer UPS class (as all classes).

* To sum up the two previous comments, the table 2 could be change as follow:

UPS Class	Output Power	VFD	VI	VFI
Consumer UPS	$P \leq 800 \text{ W}$	0.97		0.0099×ln(P)+0.805
Mixed Use UPS	$800 < P \leq 3000 \text{ W}$	0.97	0.96	
Commercial UPS	$3000 < P \leq 10,000 \text{ W}$	0.97	0.96	
Data Center UPS	$P > 10,000 \text{ W}$	0.97	0.95	

* For Toxicity and Recyclability Requirement there is not yet a full set of applicable standards and a synthesis of what is applicable and/or required for UPSs. A new part of IEC/EN 62040 series writing is in progress, at Committee Draft (CD) stage. This new International Standard will specify Environmental aspect requirements and reporting for UPS. FDIS would be available mid of 2013.

→ We would suggest waiting for the IEC 62040-4 publication to refer directly.

Comments on Product Specification Test method Rev. Oct-2011:

* All measurement methods have to refer, when existing, to IEC 62040-3 Ed 2 (April 2011).

* The requirements to guaranty Thermal Stability have been define differently than it is in IEC 62040-3. The sufficient length of time to reach steady state condition should be determined by adding 25 % more time to "temperature rise time" measured during type tests as specified by IEC 62040-4 standard, this to avoid multiple tests in multiple test conditions. The EPA test method should also allow the manufacturers to use the alternate method proposed in IEC 62040-3, base on temperature variation limit (< 2°C temperature variation not less than 3 consecutive readings with no less than 10 min interval).

→ we would suggest for Thermal Stability to use for EPA test Method the same requirement as in IEC/EN 62040-3.

* The Efficiency measurement specified in Draft 2 with reference to IEC 62301 (Household electrical appliance) following sampling method is not needed for UPS when thermal stability is guaranty and the Energy storage System are disconnected or when energy transfer with the battery is prevented during the test as specified in IEC 62040-3 annex J.

→ We strongly recommend keeping the UPS standard method from IEC/EN 62040-3 to avoid unneeded complexity and requirement for specific measurement means which are not available in labs for high power products.

Power and Performance Datasheet (PPDS)

The proposed PPDS for UPS is very detailed and comprehensive. The UPS PPDS should be consistent with other Energy Star products. General Characteristics are already available using IEC datasheet template.

→ We recommend focusing the PPDS contents on the basic characteristics followed by Energy Star type power profile.