

## **ENERGY STAR Draft 2 V1.0 Uninterruptible Power Supply Specification Eltek Valere Comments**

Submitted by Mike Kania, Business Development Director

First, we would like to acknowledge the quality work and significant efforts put forth by the EPA team to incorporate the DC UPS category into the specification. We recognize the amount of research and analysis that was required to accomplish that task in such a short period of time. We believe that the decision to include DC UPS will greatly enhance the benefits derived from the Energy Star specification.

We would like to comment on the 0.955 efficiency requirement provided in table 3. At the August 1 Stakeholders call it was stated that the intent of the DC UPS initiative is to first focus on the 48V systems, which represent the largest volume of applications. We agree with that approach. It does not appear, however, that the efficiency requirement is tied to any particular output voltage. In general, the efficiency of rectifiers tends to decrease somewhat as the output voltage decreases. As an example, the best in class 24V rectifiers are generally about 1% lower in efficiency than their 48V counterparts. If it is your intention to have a single efficiency requirement for all DC UPS, you may want to consider a slightly lower target that would also enable Energy Star rated 24V UPS for cell site applications, which are considerable in number. A reduction to 0.950 would allow the best 24V systems to potentially qualify, and we believe would remain an aggressive requirement at 48 V and meet Energy Star's goals.

Our other comment is related to the discussion that took place on the Stakeholders call regarding the load profile to be used for DC UPS. One of the stakeholders seemed to be advocating that efficiency at no load should be added to the calculation for DC UPS. Our view is that the no load efficiency should not be added. Our reasoning is twofold.

Firstly, the ATIS specification (upon which your load profile is based) has largely been developed by a group of DC UPS users and reflects the load profile that they believe is realistic for their applications. We view that methodology as representative of what they consider important in their purchase decision, which should be consistent with what the Energy Star program is trying to achieve. Secondly, when the DC UPS is operating at no load, the actual energy consumption is extremely low. Since the goal of this program is to reduce energy consumption, the no load component (which is unlikely to occur in real applications) is quite insignificant when compared with the total energy used by the UPS in a typical application. As such, we believe that no change is required in the efficiency calculation provided in Equation 3.

We appreciate the EPA's efforts in developing the Energy Star UPS specification, and are available to discuss these matters in further detail as appropriate.