

ABSTRACT

Burn-In is a common step in manufacturing process designed to stress all vital machine functions continuously for several hours, in order to identify any potential weaknesses or negative trends.

In addition, it is also a traditional way of testing used to determine the reliability of devices by subjecting the samples to extreme temperatures under biased operating conditions. Many studies regarding burn-in have proven its capability to determine possible future malfunctions at an early stage since it uses extreme temperature control. On the other hand, there are still some researches made that it would be more effective for a burn-in process if an additional environment stimulus will be added to increase its detection capability.

This study is about the improvement of the existing burn-in test set-up used at Astec Power-Emerson Network, Philippines for a specific model of switching power supply. An additional environment stimulus will be added to the existing Burn-in rack set up. This study will determine the effect of vibration as an additional environment stimulus combined with the traditional burn-in test to a specific model of switching power supply.

Also part of this study is the adoption of a real time monitoring system suited to the modified burn-in test set-up, which will make things easy for an ordinary machine operator.

Through experimentation trials and carefully evaluation of this project study, the combined burn-in and vibration test will show difference in terms of its capability to determine future workmanship defects compared with the present burn-in set up.

Thus, the proponent wishes to recommend this study, as supplement for the existing burn-in test rack set-up but not as a replacement to HALT/HASS machine.