

SUMARY

The purpose of this work was to perform an energy analysis of the facilities of the plant San Miguel de Empresas "Pinto", located at Km. 1 via Selva Alegre, Canton Otavalo, Imbabura province in order to determine the corrections to electrical disturbances and to propose alternatives for energy savings through proper use of machinery, it is being supplied by the Empresa Regional del Norte S.A", EMELNORTE, which makes the power supply at medium voltage to 13,800 V (13.8 kV), used to feed two three-phase transformers of 600 KVA and 630 KVA located in the processing chamber within the factory, the which result in the low-voltage 220/127 V, which feeds the distribution boards for spinning, weaving and dyeing, which was the removal of linear and nonlinear loads. The electrical parameters were evaluated according Regulación CONELEC No. 004/001, was the level of voltage disturbances (FLICKER, THD) and power factor by quality analysis equipment for energy, which after seven days after registration establishes the regulation, we proceeded to analyze and interpret the information that was stored, taking into account that this analysis was complemented with other information including bills include consumption, measurements on distribution boards manuals, equipment, etc. which served to set the state which is the system and identify the centers of higher energy consumption, which allowed us to propose an alternative proposal based on a viable technical and economic evaluation.