

Μια καλή διατροφή
Ξεκινάει με



Sindos, Thessaloniki, 23/09/2024

To: SEMAN SA

6 Parodos Grypari Str., P.C. 57010

Pefka, Thessaloniki, Greece

Following your request, we are pleased to inform you about the successful results of the scientific energy saving & power quality optimization project, carried out by your company at our plant's electrical installation in Sindos, Thessaloniki.

As part of this project, SEMAN successfully designed and implemented various custom-made interventions, adapted to the unique technical and environmental conditions existing at our plant. The specialized equipment, customized according to the specifications derived from your scientific study, included state-of-the-art materials from the most world-renowned manufacturers of industrial equipment (ABB, RITTAL, SIEMENS, EPCOS). The project was installed and put into operation in May 2023. Throughout our collaboration, the team of supervising engineers and technicians of SEMAN demonstrated exceptional behavior, accuracy and professionalism. Furthermore, over a year since the project commenced, it has been confirmed that all interventions are operating smoothly and continuously without issues.

It should be noted that during SEMAN's project operation, our plant has experienced significant qualitative benefits, such as:

- Voltage-Current Harmonics have been drastically decreased, across all levels of our electrical installation. For instance, at Transformer 1 of our plant, harmonic distortion levels were reduced by approximately 50%.
- Problems related to interactions between electric loads and Power Transformers, such as harmonic resonances and voltage drop phenomena, have been resolved.
- Additionally, the improved voltage levels and the elimination of harmonics have significantly enhanced the efficiency of both motors and power transformers in our electrical installation.
- The substantial reduction of harmonic and reactive currents inside the electrical installation has greatly decreased thermal losses throughout the electrical equipment and cables.
- Furthermore, the total Power Factor, concerning both the reactive and harmonic currents, has been improved both locally and centrally.
- Finally, we have observed a significant increase in the electrical installation's reserve, which allows us to install (add) new electric loads in the future fed by the existing low-voltage distribution boards, without the need of additional power transformers and central wiring.

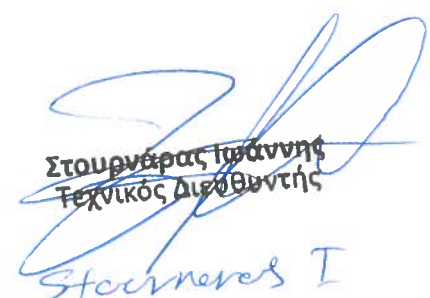
The calculation of energy savings in our plant's electricity consumption was based on the International Bibliography. Specifically, it was developed a mathematical algorithm that correlates the electricity consumption of the plant with its production data. Initially, all production and electricity consumption data were checked to determine which elements pass all statistical checks and do not present forecasting errors. In the following, all parameters of the algorithm were calculated using regression analysis on a multitude of data before the energy saving project commissioning, so that a high predictive accuracy is achieved based on the International Bibliography. Finally, the developed algorithm was applied over the twelve months following SEMAN's project implementation and the achieved energy saving was proven to be **8.15%**.

Additionally, it is noteworthy that from May 23, 2022, to August 28, 2022, "DELTA – VIVARTIA" produced an average of 1,537,491.1 kg of Final Products while consuming an average of 269,895.93 kWh. Correspondingly, for the same period, with SEMAN's interventions in operation, it produced an average of 1,494,313.0 kg of Final Products while consuming an average of 246,143.81 kWh. As observed, for the same time-period, production was approximately similar (2.9%) while consumption decreased by 8.8%.

Based on the abovementioned findings, we consider SEMAN's project to be successful, as it not only met its initial contractual goals but also resulted in significant additional qualitative improvements in the operational conditions of our plant's entire electrical installation.

For DELTA-VIVARTIA,

ΒΙΠΕ Σίνδος 57022
Τ 2310 xxx, Κ 69xxxxx
Ε user@delta.gr, www.delta.gr


Στουρνάρας Ιωάννης
Τεχνικός Διευθυντής
Stournaras I
Technical Manager.