SEPTONA

To: SEMAN SA (member of SEMAN Group)

6 Parodos Grypari Str., Pefka

Thessaloniki, Greece

Attention: Dr K.J. Satsios, CEO of SEMAN Group

Oinofyta Industrial Zone, 12/7/2021

Dear Dr. Satsios,

After the request of your company, we are pleased to inform you about the successful results of your scientific electric energy saving project. Specifically, our company SEPTONA SA instructed your company SEMAN SA to apply your scientific know-how and to carry out your Power Quality Improvement & Electrical Energy Saving (PQI & ES) Project in the inner power distribution network of our plant at Oinofyta Industrial Zone, Ntamari Area.

As part of your project, SEMAN designed and successfully installed various custom-made interventions, considering all the special requirements (technical and environmental) in SEPTONA's plant. The special equipment (with special specifications that emerged from your scientific study) included state-of-the art components from top industrial materials manufacturers around the globe. The SEMAN's PQI & ES Project was installed and set into operation in January 2021. During the collaboration we have had, SEMAN's staff of expert engineers & specialists technicians demonstrated excellent attitude, punctuality, and professionalism. Furthermore, it has been more than six (6) months now, since SEMAN set its PQI & ES Project into operation and it can be confirmed that the PQI & ES custom-made energy saving interventions are working completely fine and no issue occurred at all. That proves that SEMAN's engineers and technicians, designed, manufactured, and installed the custom-made interventions in the optimal way that ensured the maximum possible reliability in their operation.

Throughout the operation of SEMAN's PQI & ES Project our plant has been undoubtedly benefited. For example, Voltage-Current Harmonics have been drastically reduced, resulting in no more pollution into plant's power network. The interactions between the electric loads of the installation and the Power Transformers, concerning various harmonics resonance and voltage drop scenarios have been eliminated. Moreover, due to the better voltage levels but also the elimination of the effect of harmonics, the efficiency of motors as well as of the power transformers has been considerably improved. The large reduction of harmonic currents and reactive currents inside the electrical installation achieved, led to significant mitigation of the thermal losses in cables, power panels and electrical equipment. Furthermore, Power Factor concerning not only reactive currents, but also harmonic currents, has been locally & centrally improved. Finally, we have observed a big increase of the electrical installation reserve to supply new electrical loads in the future.

Regarding the energy saving results, they were evaluated with measurements. The measurements were carried out for various operating scenarios of the plant, instantaneously, with and without the energy saving interventions into operation, regarding the rms value of consumption currents (Irms) (based on these values the electricity consumption is calculated) of each electrical load.
The weighted average result of the Irms currents reduction measured equal to 11,8%, greater than the guaranteed 8,4% as the contract stated.

Based on all the above findings, we consider SEMAN's PQI & ES project absolutely successful as it fulfilled the initial conventional goals of the project and led to significant additional improvements, regarding the operational conditions inside the electrical installations of our plant.

For Septona S.A.

Vasileios Koutroumpinas

Group Manufacturing Director

SEPTONA A.B.E.E.
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