



Kilkis, 12 June 2008

Dear Dr. Satsios,

We state our remarks regarding the Optimum Electric Energy Management-Energy Saving Projects that were carried out by SEMAN S.A. company, of which you are President and Managing Director, in several industrial plants of ALUMIL Group, and specifically in the following factories:

- 1) ALUMIL S.A., Aluminium Industry, Industrial Area of Kilkis, Greece
- 2) ALUFIL S.A., Polycarbonate Industry, Industrial Area of Kilkis, Greece
- 3) INTERNO S.A., Wood Processing Industry, Industrial Area of Kilkis, Greece
- 4) GA – PLASTICS, Plastic Industry, Industrial Area of Kilkis, Greece
- 5) ALUCOM S.A., Aluminium Industry, Industrial Area of Komotini, Greece
- 6) ALUMIL YU, Aluminium Industry, Beograd, Serbia
- 7) ALUMIL SRB, Aluminium Industry, Beograd, Serbia
- 8) ALUNEF S.A., Aluminium Industry, Industrial Area of Xanthi, Greece
- 9) ALPRO S.A., Aluminium Industry, Vlasenica, Bosnia

The above projects concerned the optimization of power quality by the current-voltage harmonics suppression, the improvement of electric motors efficiency, the suppression of transient phenomena and the minimization of reactive currents in the interior of our factories' electrical installation. In order to the above objectives be achieved, the following were installed:

- Passive filters for harmonics reduction with electronic regulators for the adaptation of their characteristics on the sources of harmonics creation,
- reactors for harmonics suppression in series with the sources of harmonics creation
- variable reactive compensators,
- reactive compensators on motors windings
- Surge voltage arresters

From the result evaluation of the energy saving projects that followed by performing thorough measurements and recordings of all the basic electric values on the total loads where energy saving interventions were installed, as well as the correlation of the electricity bills



consumption data to the production data of each factory and the environmental temperatures according to Official Government Gazette Issue 1526 (FEK 1526), the following were noted:

- The initial energy saving goals of the projects which included reduction in electricity bills of 9.1% - 12.4% were achieved and indeed the final energy saving result for all the projects was at least 2 percentage units over the initially guaranteed.
- Great current reductions up to 70%,
- Reduction of the interruptions in the production process due to supply voltage dips caused by the electric networks and finally, almost elimination of the demanded reactive power in the insides of the electrical installations.
- Significant reduction of the production and maintenance costs, as well as less deterioration and weariness of the electrical equipment.

In conclusion, we would like to inform you that we consider your projects absolutely successful, as by the application of your know how, you contribute to the better operation of our factories' electrical installation and to the considerable cost saving in electricity bills, too.

With respect,


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