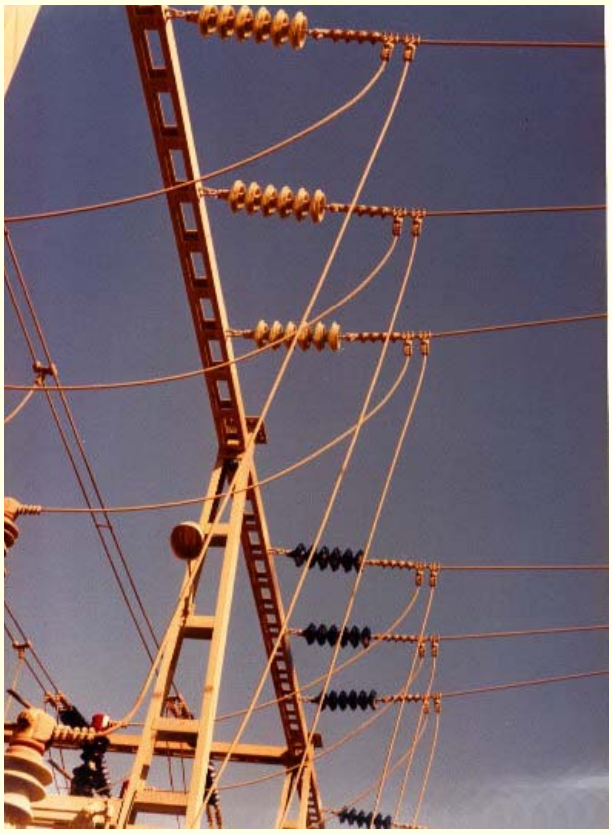
MAINTENANCE AND WATERPROOFING TREATMENT OF HIGH-VOLTAGE INSULATORS.



Insulators (especially those of porcelain and glass) do not usually give problems for service continuity at exterior high-voltage systems.

The dimensions of insulators and the cleaning effects of wind and rain are enough to assure a use without important incidents.

In systems that environmental pollution is considerable (saline environments, cement manufacturing industry, metallurgical industry...), insulator breakdowns are frequent.

The three most typical damages in insulator breakdowns are:

First: insulator destruction.

This is a non-important problem in case of support insulators, but if it is a transformer bushing insulator or a porcelain insulator of a switchgear, its destruction carries serious consequences.

Second: Process interruption. The interruption time derived from the reparation increases if there are no available supplies.

And finally, damages of equipment near an insulator which explodes.

The high-temperature remains of the damaged insulator are projected against close elements.

There are many examples of fires provoked by insulator explosion.

Insulator maintenance is fundamental to avoid the above-mentioned situations.

The solution applied by S.T.&M. consists in a periodic insulator cleaning procedure, followed by the application of a discreet-thickness cover made of silicones specific for this purpose.

Pollutant particles are absorbed inside the silicone, so this prevents the formation of a conducting layer in the surface of the insulator.

It will be necessary to clean again and to repeat the process with a frequence imposed by the pollution level. The cleaning will be simple because the silicone has not hardened still.

Silicones used during **siliconization process** are environmentally friendly. The management of the residues produced during the described process follows the simplest ways of residue treatment.

Although **siliconization** has been described as a process applied to exterior systems, it can be applied to interior installations too.

Siliconization is less frequent in the interior than in the exterior because, in interior installations, environmental pollution is limited to condensation due to environmental moisture. Solid particles rarely deposit on insulator surface in interior electrical systems.