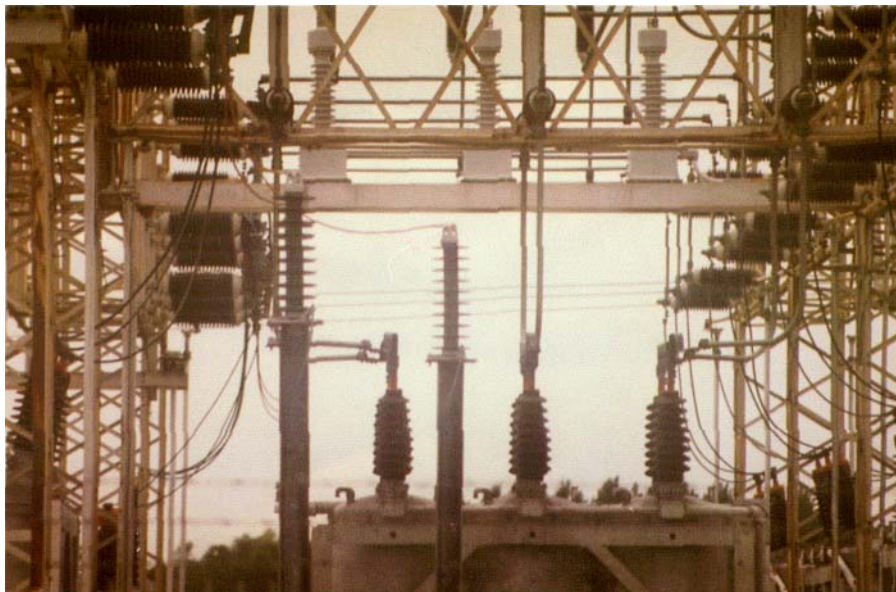


# Tampa Electric Company Uses Type PVN Station Arresters in High Contamination Area

Tampa Electric Company (TECO) has purchased its first group of six Ohio Brass PVN arresters (48 kV MCOV) to gain experience. Substation Engineer, Mr. Mike McDonald selected the test site, Sandhill Substation, based upon its high levels of contamination to gain the most experience in the shortest time possible. Sandhill Substation is located in the heart of the phosphate mining area of Florida along St. Rt. 60 in West Central Florida. Phosphate mining creates heavy layers of dust which create a conductive surface layer when wetted, as well as the deposits of acids used in the processing of the phosphate rock. Both of these factors contribute to the higher likelihood of insulator flashover when the insulators are lightly wetted. TECO has had to periodically clean or replace insulators in the vicinity of this substation because of the effects of this contamination.

About four years ago, TECO constructed a new double circuit 69kV line into the phosphate processing plant adjacent to this substation using Hi\*Lite post insulators with ESP™ silicone alloy rubber to test their resistance to this unique chemical contaminate. That line has performed well without the need for washing or changeout of any of the insulators, something that the older porcelain insulators frequently required. Based on their good experience with the ESP™ rubber housings on the insulators, TECO elected to evaluate this same material on the PVN station class arresters in the same area.

The PVN arresters Catalog #310048 have a leakage distance of 78" as compared to the old porcelain arrester leakage distance of 60", a 30% improvement. The greater leakage distance combined with the hydrophobicity provided by the ESP™ rubber will offer substantial improvement in the PVN arresters wet contaminated flashover performance when compared to a porcelain unit.



*Tampa Electric used PVN arresters in a substation in high contamination area.*



NOTE: Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.



Crew leader Chuck Martinez reported that the PVN arresters were much easier and faster to install than porcelain arresters. Each PVN arrester weighs only 54 pounds, and the construction crew was able to load all of the arresters onto the truck without a fork lift or crane, saving time and equipment cost. When the time came for the arresters to be set on their stand in the substation, that task was also accomplished without the need for a crane, which was not available on site at the time the crew was ready to install the arresters, once again saving unnecessary cost and delay. The older porcelain arresters weigh 185 pounds each and would have required the use of lifting equipment. PVN arresters are also resistant to handling damage during construction. If the arrester is accidentally knocked over during installation, the risk of losing the arrester because of a broken skirt or cracked porcelain is eliminated. All of the above money saving and performance enhancing features to PVN arresters are a definite plus when choosing the right station class arrester. TECO is evaluating Type PVN in their own version of the "acid test."



*Lightweight PVN arresters were easy to install.*

**UNITED STATES** • 210 N. Allen • Centralia, Mo 65240 • Phone: 573-682-5521 • Fax: 573-682-8714 • e-mail: [hpsliterature@hps.hubbell.com](mailto:hpsliterature@hps.hubbell.com)  
**CANADA** • 870 Brock Road South • Pickering, Ontario L1W 1Z8 • Phone: 905-839-1138 • Fax: 905-831-6353 • e-mail: [infohps@hubbellonline.com](mailto:infohps@hubbellonline.com)  
**MEXICO** • Av. Coyoacan No. 1051 • Col. Del Valle • 03100 Mexico, D.F. • Phone: 52-55-9151-9999 • Fax: 52-55-9151-9988 • e-mail: [vtasdf@hubbell.com.mx](mailto:vtasdf@hubbell.com.mx)  
**ASIA** • 23 Tagore Lane #03-16 • Tagore 23 Warehouse • Singapore 787601 • Phone: 65-6454-4772 • Fax: 65-6454-4775 • e-mail: [hpsliterature@hps.hubbell.com](mailto:hpsliterature@hps.hubbell.com)

**EU1394-H**