

san antonio terminal internacional SAN ANTONIO TERMINAL INTERNACIONAL, CHILE CRANES DIVISION

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San Antonio, Chile. February 10th, 2005

To whom it may concern,

Last December 1st, 2004, Elspec from Israel finished the start up of two Equalizer units to our Paceco Ship to Shore container cranes. We bought the models EQ905/9 -1-440.50-P7-310120.

The reason to purchase these 2 x 900kVAr units was to ensure a better than 0,95 power factor at the time to improve voltage regulation and harmonics. They were installed at machinery house of the 2 above mentioned cranes, and started to be used immediately.

Upon installation we were able to not only accomplish the power factor improvement, but also to get the Hoist acceleration and final speed specified without trips due to undervoltage.

We are proud to become a reference of these type of applications.

Sincerely,

Gabriel Juri Cranes Manager





To whom it may concern

We declare that Elspec provide us on our facilities on Santos port, containers terminal, systems to compensate reactive energy and some benefits have been got as listed on the sequence. The first installation has been concluded in 2002. The loads which received the systems were cranes, reefers and office building loads. Main benefits verified:

- 1-Power factor correction on strict control.
- 2-Power quality has been improved, mainly on cranes with heavy work.
- 3-The system has an important tool, regarding measurements of all electrical variables including harmonics, wave forms and energy spent month by month.
- 4-After the installation the systems components experiences a impressive reduction on maintenance and also it was possible to get more power from transformers, increasing the economy on electrical installations.

It have been installed 4 x 432 kvar systems on cranes, 8 x 250 kvar and 7 X 300 kvar on reefers, and 2 systems with 300 kvar on offices loads.

We declare that those systems have been adequately specified and operated.

Early this year we were exposed to the Elspec measurements technology and power analyzer with the outstanding PQZIP compression technology. We were overwhelmed by the special capabilities of this equipment. This equipment enables to perform the following activities:

- 1- Record all network parameters at extremely high resolution for extended periods of times without the need to use any threshold or trigger, considering the possibilities of analyzing all electrical parameters simultaneously, on a easy way tool.
- 2- Use the advanced recording tool and analyzing software to record, monitor and analyze all the huge database with great ease.

Bruno A. R. Figurelli Gerente de Engenharia Santos Brasil S.A. SANTOS BRASIL SIA Bruno A. R. Figurelli Gerente de Engenhari;

