



## Case Study 17482 – Fudan University Cancer Hospital, Zhongshan - Medical



**Customer:** Fudan University Cancer Hospital, Zhongshan

**Background:** Zhongshan Hospital is a major teaching hospital affiliated to the Ministry of Health of China. It was founded in 1937 in commemoration of Dr. Sun Yat-Sen. Affiliated to the State Medical College of Shanghai, it was then the first large hospital run by the Chinese. Through nearly 70 years of development, Zhongshan Hospital now covers an area of 73,188 M<sup>2</sup> and has 178,687 M<sup>2</sup> of buildings. The hospital has 1,272 beds serving 25,000 inpatients and 1,200,000 outpatients and emergency each year. Among its 2,300 medical staffs are 360 professors and associate professors, 600 physicians, 700 nurses and 450 technicians, 1 member of the Chinese Academy of Science and 2 members of the Chinese Academy of Engineering.

The hospital has all medical divisions, except pediatrics, excelling in the diagnosis and treatment of cardiovascular diseases, liver cancer, renal and pulmonary diseases, etc. It has been designated as the Shanghai Clinical Center for Cardiovascular Diseases and Liver Cancer.

Zhongshan Hospital is well equipped with advanced equipment including digital subtraction angiographer, linear accelerator, multi-slice spiral CT, 1.5T magnetic resonance scanner, single photon emission computed tomographer, digital radiographer, high energy ultrasound treatment apparatus, shock wave lithotripsy apparatus, duplex scanner, electro-gastroscope, intensive care systems, tele-consultation system and tele-education system.

**Problem:** The radiation therapy equipment in the hospital needed a stable power supply. Changes in local power demands throughout the day created variance in the voltage supplying the radiation therapy equipment. Voltage and power to these types of equipment must be regulated to ensure continued and accurate control of the radiation therapy.

**Solution:** **IP 22, 100KVA PropSava 3 Phase Power Optimisation Electro-Servo System** – Input voltage 380V ± 20% and output voltage regulated at 380V ± 2%; automatic power-on; over and under-voltage protection; phase sequence protection; over current protection with automatic by-pass system fitted with a 24V DC power supply controller.

**Effect of installation:** The Department has total confidence in managing the radiation therapy equipment and not had any problems associated with its use. The equipment can now be used 24 hours a day and 7 days a week. Patient waiting lists for the use of this equipment has been dramatically reduced



## Case Study 17482 – Fudan University Cancer Hospital, Zhongshan - Medical

**Customer:** Fudan University Cancer Hospital, Zhongshan

### **Power Optimisation - Reduced Maintenance and Longer Life for all your Equipment:**

By allowing electrical equipment to operate at a higher than manufacturer specification of voltage leads to significantly higher energy consumption, increased heat losses and a reduced life span.

Whatever the value of the incoming voltage into your site, whether it is **over** or **under** voltage, the **PropSava Power Optimisation System** will always tightly control the output voltage. It is this powerful and rapid regulation of voltage, coupled with high quality components and build that delivers the significant protection to site equipment; with power and cost savings; and reduction in CO2 emissions.

### **The Reason for Ever Increasing Changes in Voltage Levels:**

Over and under voltage is generally a chronic problem aggravated by a number of factors beyond the end user's control. Electric utilities try to maintain voltage levels delivered to customers at  $\pm 5\%$ . However, factors like weather, high demand and others can cause the utility voltage to fall within a  $\pm 10\%$  range. Even under ideal conditions, most customers will see a drop in utility voltage levels over the course of the day.

Distribution system characteristics can also contribute to chronically low voltage situations. For example, customers at the end of a long distribution line may be subject to a permanent voltage drop due to line losses on top of the utility voltage variations.

### **Protection**

All **PropSava single and 3 Phase Power Optimisation Systems** have a surge arrestor fitted as standard. Surges are short-duration peak voltages – i.e. transient voltages – existing for only milliseconds; but can measure thousands of volts.

In the commercial sector, lightning or power surges cause 45% of electrical equipment damage. Overall, 28 out of 100 cases of damage to electronic equipment are caused by surges. Surges are by far the most frequent cause of damage.

### **Lifecycle and Warranty**

All **PropSava Power Optimisation Systems** are built for 20 – 40 year lifecycle, and warranted against failure for up to 10 years.

**Find Out More – <http://www.vanguardspower.com>**

If your company wants to:

- Reduce your power and electricity costs;
- Increase the life cycle of your electrical equipment;
- Reduce the cost of equipment maintenance and repairs;
- Reduce you CO2 footprint

**Call us today for a quotation or the name of your nearest Distributor**