

## **Light is using Cargill vegetable-oil based insulating fluid in the transformers of its electrical substations**

*The company, which already uses vegetable-oil based fluid in its underground equipment, installed their first power transformers with this new technology and installed three more at the electrical substation serving the Olympic Village.*

**São Paulo, July 26, 2016** –Light, a power utility, is now using the Cargill-developed Envirotemp™ FR3™ vegetable-oil based insulating fluid at the power transformers in its electrical substations in the city of Rio de Janeiro. The company, which already uses this fluid in its underground transformers, last year acquired 12 power transformers that have this new technology. This year, the utility company invested in three more transformers for the Olympic Village Substation, which will serve those facilities. Light also plans to replace other equipment in the coming years.

The main reasons that led Light to use FR3 fluid are the company's concern with environmental preservation in the area it serves, reduced risk of fires, and lower maintenance and new facilities costs. "Replacing transformers containing mineral oil with others using the FR3 fluid is a sound decision because of the product's many benefits, including the possibility of smaller transformers being able to handle more power. Vegetable oil increases the life cycle of this equipment," said Thiago Marcato, a high-voltage maintenance engineer at Light.

The Envirotemp FR3 fluid was developed using vegetable oil. It is easily biodegradable and nontoxic, features a high fire point (K class), and represents a major advance in terms of safety and environmental protection. Technically, the FR3 fluid protects transformer insulation paper five to eight times longer than mineral oil helping to increase transformer durability or provide up to 20 percent more capacity than those using mineral oil.

According to Marcato, FR3 ensures more reliable electrical systems because of its higher fire safety. "This not only provides more safety to the grid but also reduces construction costs, because we don't have to build firewalls between the transformers. The fact that the product is biodegradable also simplifies oil containment systems at the substations," added Marcato.

Light's experience has shown that vegetable fluid provides operational stability, safety, and environmental preservation to its equipment and facilities. "This project increases the growing installed base of vegetable insulating fluid in



Brazil and will help other engineering companies, manufacturers, and power utilities take advantage of the experience and all the benefits of using vegetable oil,” pointed out Marcelo Martins, Cargill’s commercial manager.

To meet the growing demand for the FR3™ fluid, Cargill has expanded production and storage capacity at its Mairinque plant, in the state of São Paulo. “Our plant exports to South America and we are ready for significant growth in the volume of product sales over the next two years, as a result of new businesses in Brazil and South America,” added Martins.

**About Cargill**

*We produce and trade food, agricultural, risk management, and industrial products and services. In partnership with farmers, customers, government, and communities, and using nearly 150 years of experience, we help society thrive. We have 155,000 employees in 68 countries committed to feeding the world in a responsible manner, reducing environmental impacts, and improving the communities where they live and work.*

*In Brazil since 1965, today Cargill is one of the largest food companies in the country. Based in São Paulo, SP, the company is present in 17 Brazilian states. Cargill has plants and branch offices in nearly 191 municipalities nationwide and employs more than 9,000 people. For more information, visit the company’s website at [www.cargill.com](http://www.cargill.com).*

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