



DEVELOPMENTS

An update on the worldwide activities of SRC International

JULY 5, 1994

SRCI's Mission

is to improve energy efficiency, productivity, and environmental quality by providing a wide range of products, services, and software, and by promoting information, technology transfer, and capacity building related to demand-side management, integrated resource planning, and sustainable development.

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India's First Energy Services Company Wins Two Industrial Projects

INTESCO-Bhoruka, India's first energy services company, has begun work on two energy-saving projects for Indian industrial clients. INTESCO-Bhoruka is a joint venture between the U.S.-based International Energy Services Company (INTESCO), headquartered in Boston, Massachusetts, and the Bhoruka Power Corporation in Bangalore. INTESCO is an affiliate of SRC International.

Energy services companies, known as ESCOs, have been operating in the U.S., Canada, and other countries for several years. ESCOs offer a wide range of services related to implementation of energy-efficient technologies, products, and equipment to reduce clients' energy bills. Typically, the project financing is organized by the ESCO, which then enters an arrangement to share with the client the savings created by the new efficient equipment.

One of the barriers to increased industrial energy efficiency in India has been the lack of low-cost capital for these projects. INTESCO-Bhoruka is obtaining some finance through the Industrial Development Bank of India, via a U.S. Agency for International Development program for funding innovative energy efficiency projects, as well as from other INTESCO sources.

Bombay Dyeing and Manufacturing Company Ltd., one of the biggest textile groups in India, is the client for INTESCO-Bhoruka's first project. The annual energy bill at Bombay Dyeing's three Bombay textile facilities is about \$12 million – or more than 11.5% of the company's manufacturing costs.

A preliminary audit of the three facilities by SRC International in February identified annual savings of Rupees 54 million (U.S. \$1.8 million), for an investment of Rupees 110 million (U.S. \$3.7 million). Under this scenario, the investment would pay for itself in 2.1 years. The company produces cotton and synthetic fabrics for household use.

The energy efficiency plan devised by INTESCO-Bhoruka calls for improvements in Bombay Dyeing's compressed air system which powers much of the textile mill's equipment including its Air Jet looms. The first phase involves designing and installing a control system for the four central compressors to balance the supply of compressed air with the mill's demand. The control system provides a mechanism to optimize the amount of pressure developed by the compressors and the amount of energy they consume. Associated improvements in air-receiving vessels and air pipelines will be made.

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The energy and cost savings associated with this energy efficiency plan are so attractive that Bombay Dyeing will finance the installation itself, with INTESCO-Bhoruka providing project management services and a performance guarantee. The value of the initial phase of the project is estimated at Rupees 10 million (U.S. \$300,000). INTESCO-Bhoruka will design the algorithms and engineer the software for the compressor control system, and the fabrication of new pipes and air receivers will be handled by Indian subcontractors.

The management of Bombay Dyeing is also considering subsequent efficiency projects, depending on the success of the compressed air system improvements. The ensuing projects are estimated to cost about Rupees 100 million (U.S. \$3.3 million). They include optimizing lighting performance, installing variable speed drives on several motor systems, power quality improvements, and introducing foam processing technology to the cloth dyeing process. Foam processing, which was developed jointly by the U.S. Department of Energy and the U.S. textile industry, reduces the amount of water used in the dyeing process by 60%, cutting drying costs and water use, and reducing the effluent treatment load.

INTESCO-Bhoruka's experience at Bombay Dyeing indicates there are significant opportunities for cooperative energy efficiency projects between U.S. and Indian firms that will benefit both countries through technology transfer, job creation, and the more efficient use of energy resources. Bombay alone has 50 textile plants, several of which have contacted INTESCO-Bhoruka about the possibility of efficiency improvements.

INTESCO-Bhoruka's second project is with a steel mill that manufactures a wide range of high carbon and alloy steels using an arc furnace and continuous casting process at its Karnataka plant. The company's energy costs have been steadily increasing in recent years due to power shortages and low voltage levels causing inefficient operation of its melting and casting operations. The incoming voltage in the utility's power lines can be up to 20% below required levels, leading to tripping of the transformer and shutting down of the arc furnace.

To improve operations at the arc furnace and rolling mill, two older 12.5 MVA power transformers will be replaced with an efficient new 25 MVA transformer that can handle large fluctuations in incoming voltage. The change is expected to reduce energy consumption in the arc furnace by more than 5%. The Rupees 8.3 million (U.S. \$275,000) project will be financed through a shared savings contract, with 80% of the initial funding supplied by the Industrial Development Bank of India.

The U.S. is recognized as a world leader in the development of many energy-efficient technologies. INTESCO is well positioned, through its overseas affiliates, to help open international markets for these technologies.

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