

[Press Release]

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**JFE Engineering and Solar Power Group sign Technology Licensing Agreement for Linear Fresnel Solar Thermal Power**

JFE Engineering Corporation (JFEE) and Solar Power Group (SPG) have concluded a technology licensing agreement under which JFEE will commercialize SPG's Fresnel technology having exclusive sales rights in Southeast Asia and Oceania. In addition, JFEE will also market Fresnel based solar thermal power plants in other countries around the world.

SPG was established in Germany in 2004 for the purpose of developing the linear Fresnel solar thermal technology. Since that time, the company has developed the solar steam generator based in the Fresnel concept, successfully demonstrated in the 800kW FRESDEMO pilot plant in Almería, Spain.

The recently concluded technology licensing agreement is based on similar directions in strategy at the two companies, as SPG is targeting sales of linear Fresnel solar thermal plants in sunbelt countries, while JFEE aims at further growth in the global environmental/energy market, based on its extensive record in the energy field, which includes power generation, boiler technology, etc.

"JFE Engineering has been watching the solar thermal power generation as a prospective business that utilizes renewable energy. Signing of the license agreement with SPG is a great step forward for us.

When I had the opportunity to visit their trial site at Almeria, Spain, I recognized that their technology is practically simple for commercial use. We will offer a competitive power plant to the market by combining SPG's technology with ours for BTG (Boiler, Turbine & Generator) technologies", pointed out Shigeyoshi Kosuge, Senior Managing Director of JFEE.

"With this agreement, we make a step forward in the consolidation of SPG market strategy. Having JFE Engineering as partner is one more strong signal about the potential and advantages of our technology", commented Count Jacques de Lalaing, Executive Director and Founder of SPG.

SPG's Fresnel solar thermal technology has (among others) the following strong points:

- Direct generation of superheated steam up to 450°C
- Not limited to use in steam turbine power generation, but also applicable to medium- and small-scale steam supply as heat source for other industrial applications.
- Simpler structure and lower costs in comparison to other Concentrated Solar Power technologies.

Taking advantage of these features, JFEE aims to entry into the solar thermal power market to a scale of ¥15 billion (130 mio €) by fiscal year 2015.

Potential applications are not limited to large-scale power plants. Wide needs for medium- and

small-scale Fresnel based solar boilers are also expected, for example as heat supply equipment for existing coal-fired thermal power plants and seawater desalination plants, and the like.

With the signature of this agreement, SPG and JFEE contribute not only to global warming counter measurements, but also to the construction of a stable clean energy supply system.

### **About JFE Engineering**

JFEE is the engineering branch of JFE Group, whose head is JFE Holdings Inc. and mainly supplies energy and environmental engineering solutions to customers.

Since 1980s, JFEE has developed BTG (Boiler, Turbine & Generator) technologies by utilizing renewable energies such as waste heat, biomass, geo-thermal, wind and so on. Based on such experiences, JFEE plans to expand its business field to solar boilers with SPG.

JFEE has its own manufacturing facilities for conventional boilers and steam turbines. The design and construction of BTG systems in the field of waste heat recovery from industrial plants is one of JFEE's core businesses. In addition, JFEE has OEM agreement with Toshiba to manufacture steam turbines which output capacity is less than 100MW.

### **About Solar Power Group**

Solar Power Group GmbH is a German company, specialized in the development, engineering and supply of solar steam generators based in Fresnel technology. The viability of the technology has been demonstrated by the company with the successful FRESDEMO project erected in Almería, Spain, in 2007. The main focus of Solar Power Group is to provide its clients with the technology to use an inexhaustible, clean and sustainable energy source: the power of the sun. The solar generator produces steam, which then can be used as energy source for electricity production, co-generation in power plants, desalination, process steam supply, or enhanced oil recovery, among others.



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