



November 2001

Equipment Roundup

First L20A goes into commissioning

Kawasaki's first L20A gas turbine has begun commissioning at Kawasaki's Akashi works near Kobe, Japan. The engine will be used to provide 17 MW of electricity and 36 t/h of steam at 140 psi.

According to Kawasaki, the engine is designed to provide lower life cycle costs and higher efficiency for cogeneration and combined cycle plants. It has a design over-haul life of 40 000 hours and boasts an electrical efficiency of 35 per cent - one of the highest in its class. In a cogeneration system, thermal efficiency is over 80 per cent; while in a combined cycle plant, electrical efficiency is more than 48 per cent.

The engine, with a rated output of 18 MW, is based on Kawasaki's M7A gas turbine technology and is scaled up to specifically target the CHP combined cycle market. Speaking at Power-Gen Asia in Kuala Lumpur, Mr. Mark Okamoto, senior manager of international sales and marketing at Kawasaki's gas turbine division, said: "Apart from GE's LM2000, which is a derated version of the LM2500, there are no new turbines in this size range."

The L20A features a high-pressure, axial flow type 11-stage compressor, which includes five variable stator vanes with inlet guide vanes. The turbine inlet temperature is 1250

It has a three-stage, heavy-duty, air-cooled turbine section. The turbine features eight can-type combustors. This dry low NOx combustor system reduces NOx emissions to less than 23 ppm (15 per cent O₂).

Kawasaki has already started domestic commercial activities for the engine and already has orders for 30 new projects. Mr. Okamoto commented: "Deregulation in Japan has produced better than expected sales." It expects to have the first engine in commercial operation in 2003.

In the international arena, Kawasaki plans to begin commercial activities overseas in 2002. It has set up operations in Frankfurt and is establishing a number of global subsidiaries to promote the machine. "We will be targeting IPPs in Europe; North America and developing countries such as India, with its cement factories, and Malaysia's petrochemical plants. Russia is also a target market," said Okamoto. Kawasaki expects to have its first international project in operation by 2004/05.



The Kawasaki L20A turbine has begun the commissioning process at Kawasaki's Akashi works in Japan

Power in a box

GE Distributed Power has released its GE Power in a Box units which can be ready to supply power within 30 days of being ordered. The fully integrated, self contained 1MW units can be operated independently or in parallel with the grid.

Several units are currently being shipped to southern California and the Northwest, and four units will be supplied to Brazil to help meet their current energy needs.

Dan Kabel, general manager of GE Distributed Power, a business unit of GE Power Systems, said: "The Brazilian distributed generation market has become very active due to increased demand, inadequate infrastructure and spiraling electric costs. Our Power in a Box unit will enable our customers to generate the additional power they need to continue operating at normal production levels while reducing their electricity costs and complying with the Brazilian government's request to reduce electricity consumption from the national grid.

The package includes a four-stroke after cooled engine with an electronically controlled air/gas mixture system, an advanced lean-burn combustion system, a three-phase generator, engine generator control panel, a twin circuit cooling system, and a container air intake and outlet system.

The Power in a Box unit is designed for fast and easy installation and the whole package fits into a standard ISO container with no externally mounted auxiliary components. The units also meet the most stringent emission controls.

Nuclear monitoring system

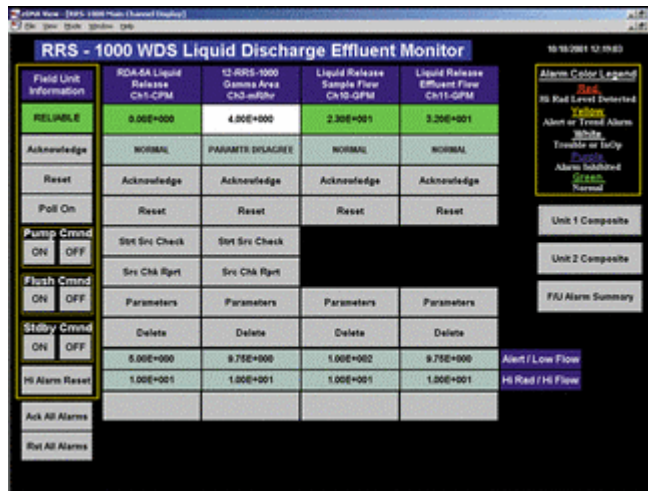
Industrial Peer-to-Peer (Ip2), a wholly-owned subsidiary of InStep Software, has introduced a new software-based monitoring solution for the nuclear industry. This product addresses safety and regulatory concerns while improving reliability and functionality.

RadServ runs on the Windows operating system and is based on Ip2's flagship eDNA data historian solution to maintain an on-line history of all measured radiation levels, calibration parameters, set points and control signals.

The product will contact relevant personnel if radiation levels reach critical points. The monitoring system automates the reporting process so that a single user can generate reports in a matter of minutes with 100 per cent accuracy.

RadServ can also be enhanced to monitor other plant equipment, systems and processes, including heat rates, fuel costs, input and output levels and transmissions as well as other in-field monitoring equipment.

The information is displayed on a user friendly interface that lets users check radiation levels throughout the plant with a click of a mouse.



The RadServ monitoring system addresses safety and regulatory concerns while improving reliability and functionality

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