



Geothermal Development Associates

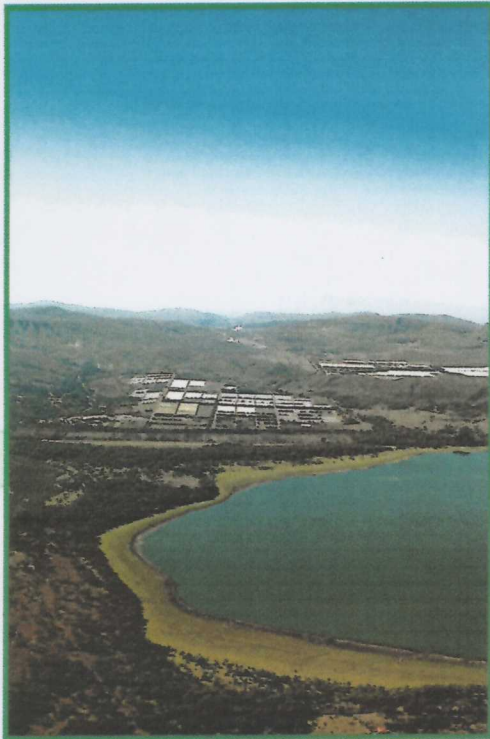


**Oserian 2 MW (nominal)
Geothermal Steam Power Plant**

Lake Naivasha, Kenya



(c)



Lake Naivasha and Oserian Greenhouses (1)

Oserian Development Company, Ltd. (Oserian) was established in 1969 as a vegetable growing farm, with a 5 hectare area of production and a workforce of six employees. In 1982, they expanded to include cut flower production. Their vision was to have a technological growing capability that allowed full climatic control of the greenhouses. In order to realize this ambition, Oserian initiated a major investment program to harness the geothermal energy from existing geothermal wells located on the Oserian land with the first well being commissioned in April 2003. It is this combination of environmentally friendly operations and technological savvy that has made Oserian a leader in its field.

Oserian Farms 2 MW (nominal) Geothermal Steam Power Plant - Under a contract signed in June 2006 with Oserian, Geothermal Development Associates (GDA) agreed to design, manufacture, inspect, test, pack, and ship a 2 MW nominal geothermal steam turbine generator and related power plant auxiliary components from Reno, Nevada, USA to the Oserian flower-growing facility near Lake Naivasha, Kenya. GDA will provide technical support during installation and commissioning of the plant.

At the heart of the plant is the Elliott 4-stage GYR turbine, which is among the most rugged and reliable pieces of precision turbomachinery available anywhere in the world. Being built to withstand extreme temperature changes and harsh conditions, this turbine is ideally suited for use with geothermal resources. GDA specializes in packaging these turbines with high quality components from key vendors. All the major component vendors have been with GDA for multiple projects, and are intimately familiar with our needs.

GDA shipped the plant to Kenya in June 2007. The time from contract signature to readiness for shipment of the plant was 10 months. The plant was commissioned in November 2007.

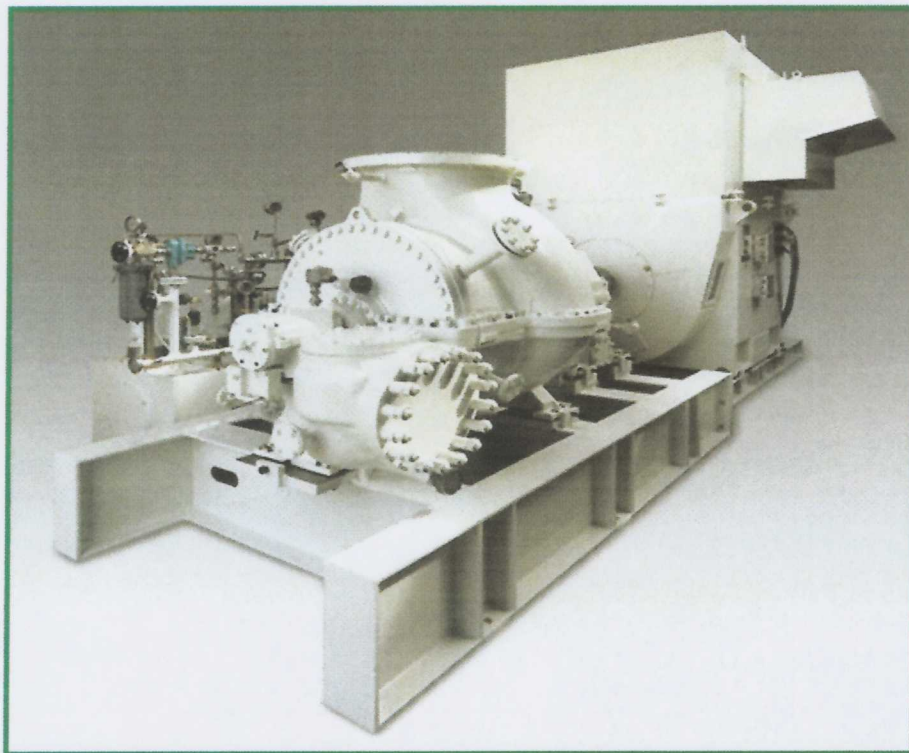
The complete geothermal power generation system (turbine generator set, gearbox, oil lubrication system and electrical control system) was manufactured and assembled in the US.



Oserian operators in the control room at the plant.

(1) Photograph/Photography provided by Oserian Development Co. Ltd. Copyright 2006

System Specifications		
	Non-Condensing	Partial Condensing
Mass Flow	26,100 kg/hr	26,100 kg/hr
NCG	1.1% by weight	1.1% by weight
Turbine Inlet Pressure	470 kPa (abs)	470 kPa (abs)
Turbine Exhaust Pressure	85 kPa (abs)	50 kPa (abs)
Turbine Inlet Temperature	149.5 deg C	149.5 deg C
Gross Generator Output	1,340 kW	1,730 kW
Component descriptions are as follows:		
Steam Turbine	4-stage GYR turbine, Elliott Company, Jeanette, PA, USA	
Generator	1,750 kW, 2,188 kVA, 11 kV, 3 phase, 4 pole synchronous, WP11 Kato Engineering, Minnesota, USA	
Gearbox	N12C, double helical, parallel shaft Lufkin Industries, Lufkin, Texas, USA	



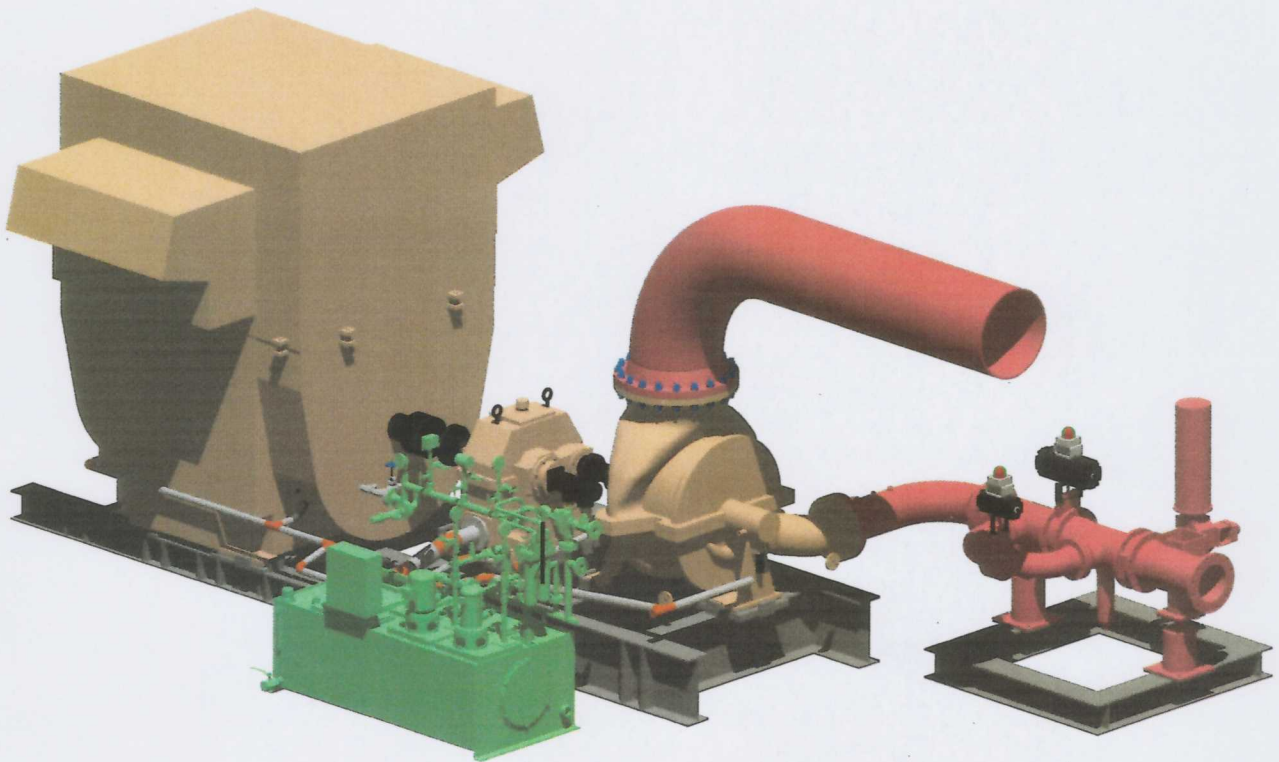
The skid-mounted steam turbine-generator set before shipment to Oserian.⁽²⁾

(2) Photo ©VanceFox.com

Geothermal Development Associates (GDA) is a privately held U.S. corporation with nearly 30 years of experience in geothermal power and direct use applications. Our core group of engineers, geologists, geoscientists and support staff has the capability to oversee projects during every stage, from resource exploration and well-testing to the commissioning of a new power plant.

Since the company's incorporation in 1978, GDA has been involved in numerous geothermal projects around the world, including some in their home state of Nevada. For several years, GDA served as a lead consultant on many geothermal projects, providing assistance with tasks such as permitting, land acquisitions, well-testing, and power plant engineering and supervision.

Beginning in 2002, GDA has taken on the role of designing and packaging turbine generator sets. GDA also designs and fabricates associated equipment such as lube oil consoles, hydraulic power units, complete electrical control systems, and other components using state of the art technology.



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