

From: Alastair Steele [a.steele@gilkes.com]
Sent: Sunday, March 06, 2011 3:26 PM
To: Edl, Michele
Cc: Bruce Sellars; Colin Speer; David Priestley
Subject: RE: info request hydraulic capacity & design curves
Attachments: Faulkner Ranch.pdf

Dear Sir,

Thank you for your enquiry to Gilkes Re turbine serial No: 56331.

Please kindly find below performance details for this turbine on this site:-

Turbine Type: Francis
Model: 600 G270
Head: 43m
Flow Rate: 2.26m³/sec
Shaft Speed: 720rpm

I have also attached a copy of the turbine efficiency curve as requested, see should give you a guide for the ratio between flow and power. Please let me know if you need any further information.

Best regards,

Alastair Steele
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From: Edl, Michele [<mailto:Michele.Edl@idwr.idaho.gov>]
Sent: Thursday, March 03, 2011 6:50 PM
To: David Priestley
Subject: info request hydraulic capacity & design curves

Good morning,

I work for the Idaho Department of Water Resources. I have been assigned to issue a water right license, if possible, to a hydropower use which was incompletely confirmed in July of 1993. The field examiner found that the Faulkner Land and Cattle Co was using a turbine manufactured by your firm when he conducted the exam.

The examiner found a Gilkes turbine, serial number **56331**, in place and generating approximately 480 kW from a flow of 48 cfs. I have some information about the generator and have attached a copy of photos taken during the exam.

Unfortunately the examiner failed to provide either the system capacity or the annual volume of water used for power production. Those numbers are statutory requirements for licensing.

I am hoping that you can provide me sufficient information about this turbine so that I can proceed.

- 1) Can you provide me the hydraulic capacity for this turbine?
- 2) Can you provide me with turbine curves?

I believe that I have a source for historical generation data but I do not have the necessary water-generation relationship with which to back calculate to a flow rate and thence to a volume.

Any information you can provide will be gratefully accepted. Thank you.

Michele Edl

Associated Engineer

Water Rights Section

Idaho Department of Water Resources

322 E Front St

Boise ID 83720

208-287-4946

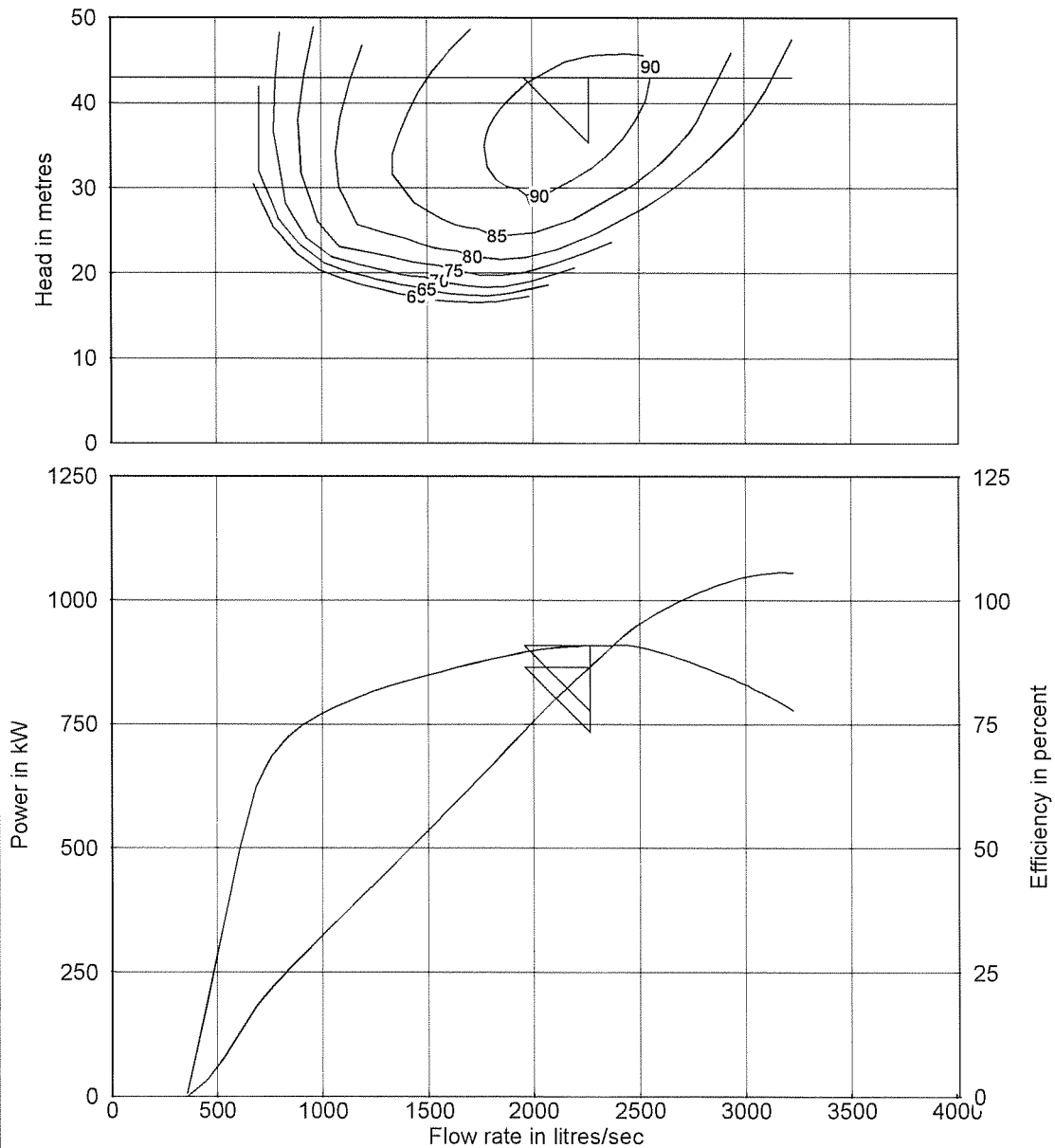
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GILKES

Francis Turbine

600 G270

Speed 720 Rpm



Name	Head metres	Flow rate m ³ /sec	Power kW	Efficiency percent	Vent mm
Faulkner R	43.0	3	866	90.9	36.4

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Approved

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