



PEÑAS BLANCAS: 2.3 Mw Quizarrá, Costa Rica

May 18, 2014



River Run Hydro seeks an investment partner for \$1.2 million and guarantee of a \$4.3 million construction loan for a 40% stake or full capitalization of \$5.3 million for a 51% stake. The hydro model for Peñas Blancas is summarized below.

Parameter	units	Value
Available Head	feet	344
Pipeline Diameter	inches	60
Flow velocity	feet per second	5
Penstock Flow	cubic feet per second	98
Flow Rate	gallons per minute	44039
Pipeline Length	feet	3000
Head Loss	feet per 100 feet	0.1
Total Head loss	feet	3
Effective head	feet	341
Turbine efficiency	percentage	85%
Hydroelectric Potential	kilowatts	2298
Annual operation period	months	9
Sell rate	\$/ kilowatt hour	\$0.11
Annual Revenues	dollars	\$1,637,744
Capital Cost	dollars	\$5,300,000
Payback period	years	3.2
Return on Investment	percentage	30.9%

Property: 110 hectare privately owned finca that bounds one side of the Peñas Blancas River, near San Isidro, South central Costa Rica.

Access: Good access by 2WD to property, easy road development to construction points.

Grid: Single-phase passes less than one km from the target turbine location

Mode: Joint venture: Land owner 20%, Investor 40%, RRH 40% with international construction loan.

Profits: 3.2 year payback, 31% ROI on a \$5.3 million capital investment

Flow Measurement: Flows are very large, but no measurement station yet installed.

Challenges

- 1) Complicated ownership structure
- 2) Would prefer to sell property for \$4 mill
- 3) Being pursued by a larger hydro firm for conventional hydro
- 4) Our most promising, but early in the evaluation stage

Advantages

- 1) No land costs
- 2) Easy access, and easy penstock route
- 3) Very high flow across decent drop in a location that is easy to install
- 4) Access across pasturelands, no environmental sensitivity.



