



# This Log Book contains Installation details and Maintenance records

related to the PowerSpout installation at

Owned/operated by

Date installed



#### **Notice of Copyright**

PowerSpout Installation Manual Copyright © 2010 All rights reserved

#### **Notice of Trademark**

PowerSpout – is a USA registered Trademark

# **Notice of Company Registration**

EcoInnovation – is a NZ Registered Limited Company

#### **Disclaimer**

UNLESS SPECIFICALLY AGREED TO IN WRITING, ECOINNOVATION LIMITED:

- (a) MAKES NO WARRANTY AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN ITS MANUAL OR OTHER DOCUMENTATION.
- (b) ASSUMES NO RESPONSIBILITY OR LIABILITY FOR LOSS OR DAMAGE, WHETHER DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL, WHICH MIGHT ARISE OUT OF THE USE OF SUCH INFORMATION. THE USE OF ANY SUCH INFORMATION WILL BE ENTIRELY AT THE USER'S RISK.



# **PowerSpout Contact details**

Web: <u>www.powerspout.com</u>

If you cannot find the answers to your questions about our product, renewable energy systems, or your site's potential in this document or on our website at <a href="mailto:powerspout.com">powerspout.com</a>, please visit <a href="powerspout.com/faq">powerspout.com/faq</a> and submit a question. We will answer this as quickly as possible, and you will be notified by email when this occurs.

PowerSpout is a product proudly designed and manufactured by:

#### **EcoInnovation Ltd**

671 Kent Road New Plymouth R.D.1 New Zealand 4371

Web: www.ecoinnovation.co.nz

If you need to contact EcoInnovation by phone then email first via our web site first and check the local time in NZ if calling from overseas. Business hours are 9:00am to 5:00pm weekdays only. EcoInnovation is closed for up to 3 weeks over the Christmas break from 24<sup>th</sup> December.

# 1. Installation details

We recommend you take note of the final system details (as below) for future reference and to help with ordering replacements or upgrading the system. You must complete the table below and send a copy to EcoInnovation within 11 months of purchase for your 3-year warranty to be valid.

Installation details	
PowerSpout purchased (invoice date)	
Date installed	
Location of installation	
Head at site (vertical drop/fall of pipe)	m or ft
Flow available at intake	l/sec or gal/min
Pipe inside diameter	m or inch
Pipe length	m or ft
Jet size	mm or inch
Static pressure on gauge (turbine off)	kPa or PSI
Dynamic pressure on gauge (turbine running)	kPa or PSI
Generator equilibrium temperature	cold or warm or hot
System nominal voltage	V
Cable length	m or ft
Cable wire size	mm <sup>2</sup> /conductor
Generator name (eg 100-14S-1P delta)	100/80/60/60dcSP delta/star
Controller name/model	
Inverter name/model	
Performance data	
Flow rate of water through turbine	l/sec or gal/min
Voltage on DC rectifier pins at hydro	V
Voltage at battery terminals	V
Current generated	A

We also recommend you take pictures of your installation.

#### 2. Maintenance

Regular inspection of your system will help you understand how it works and how to recognize, remedy and avoid problems.

# 2.1. Frequent checks

The following checks will help you monitor your system and identify any potential problems. The frequency of these tasks can vary according to your circumstances but should occur at least every 3 months. Checking the hydro output is usually the most frequently needed, particularly if appropriate meters have been installed in convenient locations that can indicate other issues. Take notes as appropriate:

					 <b>.</b>
Date					
Hydro output normal					
Specific gravity of batteries					
Battery acid level (top up)					
Diversion load working					
Surplus water at intake					
Unblocked water intake					
etc					

#### 2.2. Annual checks

The supply pipeline should be inspected at least once each year to ensure there are no breaks or potential hazards.

Once a year check termination points on your battery, regulator, inverter, fuses and diversion load. Clean and tighten as required. If you observe any heat damage or corrosion at terminations attend to these and repair. Remember to turn off all generation, your inverter and remove battery fuses before cleaning/tightening any termination points. You should pay special attention to your diversion load and battery terminals.

# 2.3. Lubricating the bearings

You should lubricate your PowerSpout bearings the time you first use the turbine and then:

- Every 12 months for generation up to 300 W.
- Every 6 months for generation up to 600 W.
- Every 3 months for generation up to 1200 W.

Date	Lubricant	Comments
WIN TO SEE STATE OF THE PERSON	an Name	

# 2.4. Bearing replacement

You should check the bearings every year and replace if required (note our warranty terms require annual replacement).

Date	Туре	Comments

**PowerSpout** 

Frequent Tasks Record sheet

	Comments									at weekly. Find copies on our website: www.powerspout.com.
ו date)										e carried ou
for eacl	Unblocked water intake									s will be
opriate	Surplus water at intake									activitie
as appr	Diversion load working									s some
Activities (tick as appropriate for each date)	Battery acid level (top up)									table a
Activiti	Specific gravity of batteries									s of this
	Hydro output normal									re copie
	Date									You will need more copies of this table as some activities will be carried out weekly.

© 2010 Ecolnnovation Ltd (NZ)

Page 1

**PowerSpout** 

Annual Tasks Record sheet

	Comments									
ate)										
Activities (tick as appropriate for each date)										
propriate										-
(tick as ap										
Activities	Electrical terminals and connections									
	Walk supply pipe									
	Date									