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JUN 06 2005

Department of Water Resources

Permit No: 33-7177

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 33-7177

Exam Date: 7/14/1999

1. Current Owner: NEW ENERGY INC
C/O DAVID SNEDIGAR
4577 N CLEAR LAKES GRADE
BUHL ID 83316

2. Accompanied by: Jake Amy
Phone No:
Address:
Relationship to Permit Holder: Operator

3. SOURCE TRIBUTARY
DEEP CREEK SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use:
2. Other water rights with the same point of diversion:

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

DEEP CREEK SE1/4NE1/4SW1/4 Sec. 14, Twp 10N, Rge 27E, B.M.
BUTTE County

Method of Determination:

2.

PLACE OF USE: POWER

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
10N 27E 20									X								

Method of Determination:

3. ☐ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☐ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☐ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☐ Photo of Diversion and System Attached

4.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
_____	_____	_____	_____	_____	_____	_____

2. Measurements:

E. FLOW CALCULATIONS

__X__ Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS N/A**G. NARRATIVE/REMARKS/COMMENTS**

Have conditions of permit approval been met? __X__ Yes ____ No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
POWER	01/01 to 12/31	5.500 CFS	
<u>Totals:</u>		5.500 CFS	

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above __X__ None

____ Change P.U. as reflected above ____ Add P.U. as reflected above ____ Other

I. AUTHENTICATION

Field Examiner's Name _____ Date _____

Reviewer _____ Date _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

33-7177

~~33-7093/33-7159~~

~~33-7177/33-7178~~

Permit No. (208) 357-3132

A. GENERAL INFORMATION

1. Owner: NEW ENERGY INC Phone No. _____

Current Address: 1026 E 1000N / 321 E CONCORDA DR
SHELLEY, ID 83274 / TEMPE, AZ 85282

2. Accompanied by: JAKE AMY EXAM DATE: 7-14-1999

Address: P.O. Box 32, Howe Id 83244 Phone No. (208)-767-3374

Relationship to Permit Holder: Previous owner / operator

3. Source: DEEP CREEK / BLACK CREEK tributary to SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 33-7093/33-7159/~~33-7177~~/33-7178

2. Other water rights with the same point of diversion: 33-7093/~~33-7159~~/33-7177/~~33-7178~~

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No.	Gov't Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
		~~NE~~	~~SE~~	~~SW~~	~~10~~	~~10N~~	~~27E~~	~~Butte~~	~~ARC VIEW On Site / FSA Aerial (BLACK CREEK)~~
		SE	NE	SW	14	10N	27E	Butte	ARC VIEW On Site / FSA Aerial (DEEP CREEK)

2. Place(s) of Use:

Indicate Method of Determination On Site / FSA Aerial

2. Place(s) of Use.

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
10N	27E	20										P							

33-7177

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe I.D. as applicable.

SEE ATTACHED PHOTOS & USGS MAPS											
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Scale: 1" = _____

☒ Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

☒ Aerial Photo Attached (required for irrigation of 10+ acres)

☒ Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
GENERATOR	Siemens-Allis	KW 650	1-5364-5218-1-1		480 volts
Turbine	Ateliers-Bouvier		61.092.00/86		

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: Channel Capacity: Manning Equation: DEEP CREEK = 71.16 cfs
BLACK CREEK = 19.08 cfs

Closed Pipe Hazen-Williams Equation Q = 19.51 cfs Max CAPACITY

33-7177

MEMORANDUM

Date: May 25, 2005
To: Water Right File 33-7177
From: kwilson
Re: Field Report Narrative

33-7177 is for diversion of 5.50 cfs from Deep Creek for power production.

The system consists of two diversion dams one on Deep Creek and one on Black Creek each with a 16-inch discharge pipeline. These two discharge pipes are combined into a common 16-inch pipeline to the power plant with open discharge into ditches. The water can then be used for irrigation or discharge into Little Lost River.

Permitted flow for power from Deep Creek is 10.50 cfs [5.00 cfs (33-7093)] and [5.50 cfs (33-7177)]
Permitted flow for power from Black Creek is 3.50 cfs [0.80 cfs (33-7159)] and [2.70 cfs (33-7178)]
Total permitted flow is 14.00 cfs

Deep Creek channel capacity from Manning Equation is 71.16 cfs.
Black Creek channel capacity from Manning Equation is 19.08 cfs

Pipeline Capacity from Hazen-Williams Equation for Closed Pipe Flow is 19.51 cfs
Hydropower Efficiency (e) = $[(P)(11.8)] / [(Q)(H)]$

P = Power in kw = 650 kw (Generator Name Plate)

Q = Flow rate = 14.00 cfs (Permitted amounts)

H = Total Head = 880 ft (Elevation difference between intake and discharge).

$$e = [(650)(11.8)] / [(14.00)(880)] = 0.6225 \times 100 = 62.3\% \text{ efficient}$$

Stream channel calculations (Deep Creek or Black Creek), and the pipeline capacity exceed the permitted flows, and the hydropower efficiency is greater than 60 percent. Therefore, I recommend licensing 33-7177 for Power at the permitted amount of 5.50 cfs.

E. NARRATIVE/REMARKS/COMMENTS

DIVERSION DAM with 16" mainline to hydropower plant open
discharge into ditches for irrigation or discharged into Little Lost
River.

Have conditions of permit approval been met? ☒ yes ☐ no

33-7177

HYDROPOWER

PERMITTED FLOW:

DEEP CREEK

5.00 cfs (33-7093)

5.50 cfs (33-7177)

10.50 cfs

BLACK CREEK

0.80 cfs (33-7159)

2.70 cfs (33-7178)

3.50 cfs

TOTAL PERMITTED FLOW RATES

$$Q = 10.50 \text{ cfs} + 3.50 \text{ cfs} = \underline{14.00 \text{ cfs}}$$

MAXIMUM PIPELINE CAPACITY = 19.51 cfs

EFFICIENCY OF HYDROPOWER SYSTEM: $e = \frac{P(11.8)}{Q H}$

P = 650 kw e = EFFICIENCY

Q = DESIGN DISCHARGE = 14.00 cfs

H = HEAD (ft) = 880 ft

$$e = \frac{650(11.8)}{(14.0)(880)} = \frac{7670}{12320} = 0.6225 \times 100 = \underline{62.3\% \text{ EFFICIENCY}}$$

PIPELINE CAPACITY EXCEEDS TOTAL PERMITTED FLOW RATE
EFFICIENCY IS GREATER THAN 60%

∴ RECOMMEND LICENSING ALL PERMITTED AMOUNTS
FOR A TOTAL OF 14.00 cfs

PERMIT # 33-7177

MANNING EQUATION CHANNEL CAPACITY RESULTS

08-21-1992

File Number:

Claimant: Jade Amy

Channel measured: Deep Creek

Date of measurement: 7-23-92

Measurement location:

reading 29' Northwest from point of diversion into pipeline.

Calculation prepared by: Gary Buss

Comments about the measurement:

The results of the calculation are:

The length of the channel measured is 300 feet.

The upstream and downstream rod readings are 9.40 and 23.70 feet.

The channel cross section is 12.27 ft-sq.

The wetted perimeter is 14.59 feet.

The hydraulic radius is 0.84 feet.

The slope is 0.0477

The roughness coefficient is 0.0500

The flow velocity is 5.798 ft/sec.

The rate of flow is 71.16 cfs.

CROSS SECTION NUMBER 1

For File Number

Deep Creek

Number	Rod Reading	Water Depth	Distance
1	7.78	0.00	5.08
2	8.34	0.56	6.50
3	8.68	0.90	7.58
4	9.02	1.24	9.25
5	9.20	1.42	10.60
6	9.24	1.46	12.00
7	9.05	1.27	13.60
8	8.62	0.84	15.00
9	8.28	0.50	17.00
10	7.90	0.12	18.40
11	7.78	0.00	19.30

The area for this cross section is 12.27 square feet
and the wetted perimeter is 14.59 feet.

33-7177

Hazen-Williams Equation for Closed Pipe Flow

Assumptions: Head Loss due to bends, couplings, & valves is negligible

$$Q_{cfs} = 1.318 C_h (\pi D^2/4) \times (D/4)^{0.63} \times (H/L)^{0.54}$$

Q = Discharge (cfs)

D = Pipe Diameter (ft) = 1.33 ft (16")

L = Pipe Length (ft) = 21580 ft

H = Elevation Drop (ft) = 880 ft

C_h = Values for Types of Pipe = 120

150 -Plastic (PVC) > 6"

140 -Very Smooth, PVC < 6"

130 -Cast Iron

120 -Wood, Concrete,
Welded Steel

110 -Riveted Steel

100 -Old Cast Iron

80 -Badly Corroded Cast Iron

$$Q_{cfs} = 1.318 (\overset{C_h}{120}) [\pi (\overset{D}{1.33})^2 / 4] \times (\overset{D}{1.33} / 4)^{0.63} \times (\overset{H}{880} / \overset{L}{21580})^{0.54}$$

$$Q_{cfs} = \underline{19.51} \text{ cfs}$$

Maximum

Pipeline Capacity

Permit # 33-7177

Additional Computation Sheets Attached

Method:
Maximum Total Flow rate $Q = 19.51 \text{ cfs}$

$Q_{\text{LIMITED BY PERMIT}} = 5.50 \text{ cfs}$

1. Volume Calculations for Irrigation: *N/A*

$$V_{D,R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \underline{\hspace{2cm}}$$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____

2. Volume Calculations for Other Uses: *N/A*

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Power	1/1	12/31	5.50 cfs	
Totals:			5.50 cfs	

2. Recommended Amendments

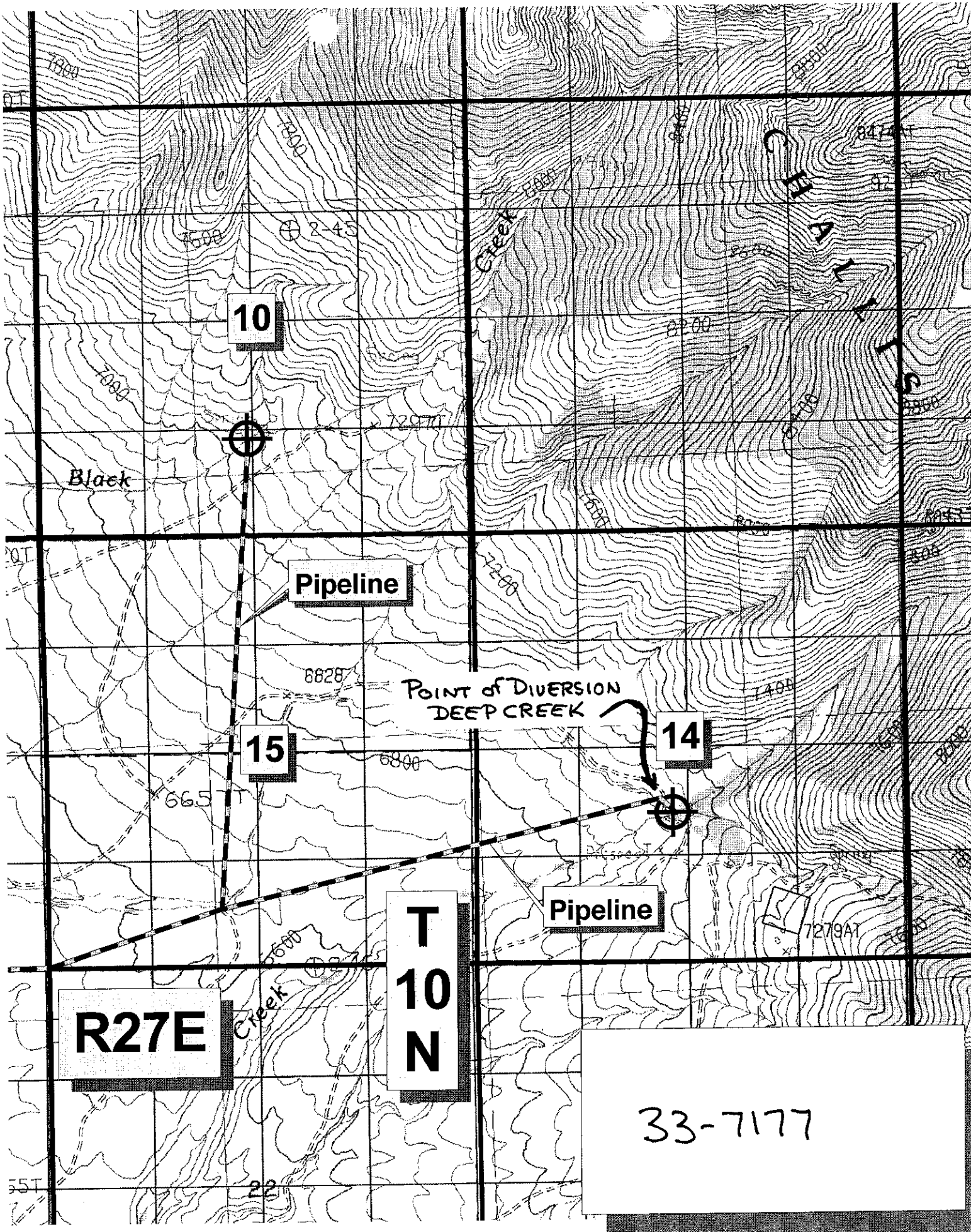
___ Change P.D. as reflected above ___ Add P.D. as reflected above ☒ None
 ___ Change P.U. as reflected above ___ Add P.U. as reflected above ___ Other

AUTHENTICATION KEITH C WILSON 5/24/2005
Field Examiner's Name KEITH C WILSON Date 7-14-1999

Reviewer _____ Date _____

SEAL

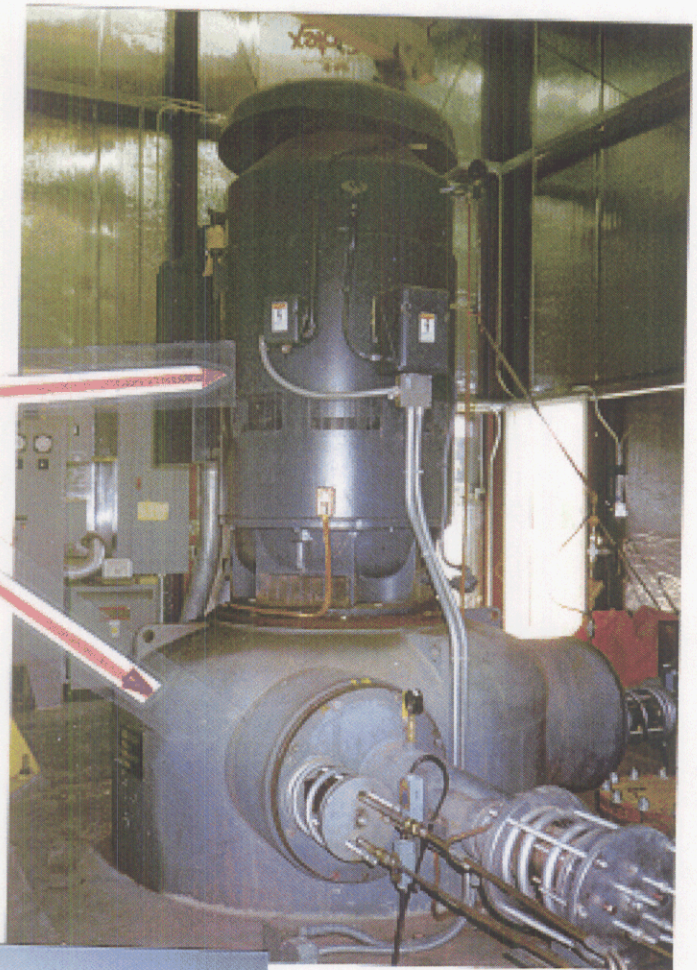
33-7177



HYDROPOWER

GENERATOR

TURBINE



Hydro power Tailrace

33-7177



33-7177



Screen

DEEP CREEK
DIVERSION

33-7177

TO: Field Exam Files 33-7093, 33-7159, 33-7177 & 33-7178 May 27, 2005

FROM: Keith C. Wilson

RE: Jake Amy - New Energy c/o David Snedigar Hydropower permits

April 20, 2005, I sent a letter to the permit holder of permits 33-7093, 33-7159, 33-7177, & 33-7178, and to Jake Amy previous owner of the permits. The letters informed them that these were permits and that 33-7093 and 33-7159 needed to be filed in the SRBA. The letter also recommended that they contact the adjudication staff for instructions in filing a late claim.

On May 2, 2005, Jake Amy came into the office to discuss the letter. Jake informed me that the project reverts back to him on December 31, 2006. According to Jake he has had problems with getting New Energy to do anything. I told him that if he can get a notarized document authorizing him to file the claims then he could file on them. Jake does not expect them to do that, much less file a late claim in the adjudication. When he left he indicated that he was going to see his attorney because New Energy should have filed.

I have been in contact with Jake's attorney numerous times and provided requested information. His attorney is:

Curt R. Thomsen

2635 Channing Way

Idaho Falls, ID 83404

(208) 522-1230 [Cell (208) 830-0840] e-mail: mandolin@velocitus.net

(Boise office address is 5887 S. Mandolin Pl., Boise 83709, (208) 362-0085.)

Curt Thomsen informed me that David Snedigar has the following address:

New Energy

C/o David Snedigar

321 E Concorda Dr

Tempe, AZ 85282

1026 E 1000 N

Shelley, ID 83274

(208) 357-3132 [from phone book]

May 20, 2005, I sent a second letter to these new addresses.

May 27, 2005, a phone conversation with Mr. Snedigar, he said that he had just read my letter. I informed him that he needed to file a late claim in the SRBA as soon as possible just in case the SRBA judge closes the basin, and that he would need to contact adjudication staff in this office for instructions on how to complete his late filing on 33-7093 & 33-7159. I also informed him the 33-7177 & 33-7178 would need a licensing amendment before they could be licensed. I could not transfer his call but Mr. Snedigar indicated that he would call.



Keith C. Wilson

Senior Resource Agent



State of Idaho

DEPARTMENT OF WATER RESOURCES

900 N. SKYLINE DR., SUITE A, IDAHO FALLS, ID 83402-1718

PHONE: (208) 525-7161 FAX: (208) 525-7177 WEB SITE: www.idwr.state.id.us

EASTERN REGION

May 20, 2005

New Energy Inc.
C/O David Snedigar
321 E Concorda Dr
Tempe, AZ 85282

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

COPY

RE: Water Permits 33-7093, 33-7159, 33-7177, & 33-7178

Dear Sir:

Alan J Amy originally filed the above numbered applications for permit to establish water rights to divert water for hydropower purposes. These permits were later assigned to New Energy Inc. These permits are not water rights, but a permit to develop a water right. The field exams establishing beneficial use have been completed and are currently being written up to be sent to Boise for licensing.

Permits 33-7093 and 33-7159 were being used prior to November 19, 1987, so a Notice of Claim must be filed in the Snake River Basin Adjudication. A Notice of Claim has not been filed for either permits 33-7093 or 33-7159. The Directors Report for Basin 33 has been filed and the SRBA Adjudication Court has issued the water right decrees. The adjudication court judge could rule that the basin is closed and further filings would not be allowed. If this happens any permit, license, or claim to appropriate water would have to be refilled and could end up with a priority date of 2005 or later. Late adjudication claims (Notice of Claim) must be filled on for permits 33-7093 and 33-7159 as soon as possible or risk losing the water rights to divert water.

To facilitate filing a Notice of Claim please contact the following individual:

Ernie Carlson
C/O Idaho Department of Water Resources
900 N Skyline Dr, Ste A
Idaho Falls, ID 83402
(208) 525-7161

Mr. Carlson can advise you as to the procedures necessary to file a late claim in the Snake River Basin Adjudication.

For your convenience enclosed are copies of permits 33-7093, 33-7159, and forms to file in the Snake River Basin Adjudication

Your prompt response in this matter is advised.

Sincerely,

Keith C. Wilson
Senior Resource Agent

COPY



State of Idaho

DEPARTMENT OF WATER RESOURCES

900 N. SKYLINE DR., SUITE A, IDAHO FALLS, ID 83402-1718

PHONE: (208) 525-7161 FAX: (208) 525-7177 WEB SITE: www.idwr.state.id.us

EASTERN REGION

May 20, 2005

New Energy Inc.
C/O David Snedigar
1026 E 1000 N
Shelley, ID 83274

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

COPY

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C/O Idaho Department of Water Resources
900 N Skyline Dr, Ste A
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(208) 525-7161

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Your prompt response in this matter is advised.

Sincerely,

Keith/C. Wilson
Senior Resource Agent

COPY