

MILLER ENGINE & MACHINE COMPANY, LLC

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Serving The Energy Industry Since 1890 — Servicing The Hydroelectric Industry Since 1953

Projects & Customer REFERENCE LIST

MILLER ENGINE & MACHINE COMPANY

Limited Liability Corporation, State of Ohio

Federal I.D. No. 061798790

Business Contacts:

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Reference past projects

2009

Modification of Rim Drive

Disassembled Manufacture and assembled
Dan River

Schoolfield, Virginia

MANUFACTURING & SHOP ASSEMBLY

2008

Crisp County Power Commission
Warwick, GA
Replace 6,000lb Crown Plate
Quarter Section iron casting
6MW Newport News Unit

City of Hamilton, OH
Refurbish 20 wicket gates, replace
cast iron links, 970KW STS vertical
Francis unit

American Energy, Concord, CA
Refurbishment of 300kW Flyght turbine.
Re-design/re-engineer generator hookup

2007

Northbrook Energy
Turner Shoals, SC
Complete rehab of 4MW
S. Morgan Smith vertical Francis
Runner: Remove replace upper &
lower wear rings; cavitation repair,
rebalance. Complete refurbishment
of wicket gates leafs & stem brg journals,
repair main turbine shaft bearing & main
turbine shaft bearing journal

Crisp County Power Commission
Warwick, GA
Replacement of 16" dia x 14ft lg
bronze main turbine shaft bearing
journal for 6MW Newport News Unit

Crisp County Power Commission
Warwick, GA
Refurbish twenty (20) 77 year-old wicket gates;
7ft OAL, 4ft gate height. Heel/toe restoration;
realign stems, sleeve stem brg journals
6MW Newport News Unit

2006

Customer: STS HydroPower
Chicago, IL
Description: Remove two runners from
broken horizontal shaft, mfg new shaft, install runners, balance assembly

Customer: STS HydroPower
Chicago, IL
Description: Remove 24" dia Main Turbine shaft bearing liner, replace with new ORKOT
bearing material

1996-1997

Project: Holiday Bridge, VA
Customer: STS HydroPower
Description: Disassemble units 1 and 2. Refurbish shafts and reinstall new runners.
Reassemble units

1995

Project: Black Creek
Customer: Hydro West, WA
Description: 46" P.D. Pelton runner

1993

Project: City of Hamilton, OH
Customer: STS HydroPower
Description: Manufacture (2) 970KW vertical Francis turbine assemblies

1992

Project: Brasfield, Petersburg, VA
Customer: STS HydroPower
Description: Design , manufacture one 84" vertical Kaplan turbine & spiral case;
complete installation and alignment of turbine and generator

Project: French Paper
Customer: French Paper Co, MI
Description: 4 new runners; (1) 42" Francis; (2) Propellers; (1) 74" Propeller; Fabricate
new gates; refurbish bearings; gate case assembly and new draft tube.

1990-1991

Project: Schoolfield, VA
Customer: STS HydroPower
Description: Design , manufacture complete installation and alignment of six 64" rim-
drive turbines, generators

1989

Project: Anamosa, IA
Customer: North American Hydro
Description: 72" Propeller turbine assembly

Project: Kekawaka, CA
Customer: STS HydroPower
Chicago, IL
Description: 52" Impulse turbine assembly

1988

Project: Kanaka Powerhouse, CA
Customer: STS HydroPower
Description: 42" Impulse turbine; complete manufacturing

Project: French Landing, MI
Customer: STS HydroPower
Description: 71" Francis turbine: new runner, shaft, bearing, refurbish of gate casing,
complete assembly of unit, and alignment to generator

Project: Maquoketa Powerhouse, IA
Customer: Iowa Electric
Description: 39" Francis turbine, new runner, shaft, bearing, complete re-assembly of
unit, and alignment to generator.

1987

Project: Moor's Park, MI
Customer: Leitelt Iron Works

Description: 41" Francis turbine runners (four units)

1985

Project: Boardman, MI

Customer: Dr. W.J. Bauer

Description: 50" Francis turbine assembly

Project: Chippewa, WI

Customer: Dr. W. J. Bauer

Description: two 70.5" Francis turbine units

Project: Morrow Dam, MI

Customer: STS HydroPower

Description: Four 54" rim-drive turbines

Project: Bear Valley, CA

Customer: Leffel Company (Tampella)

Description: Pelton Wheels, (two runners)

1984

Project: Pidgeon Cove

Customer: Hydro West, WA

Description: 45" P.D. Pelton Wheel

Project: Sabin, MI

Customer: Dr. W. J. Bauer

Description: 61" Francis turbine assembly

Project: Ada, MI

Customer: STS HydroPower

Description: 90" Kaplan turbine assembly

1983

Project: Fallasburg, MI

Customer: STS HydroPower

Description: 17" Francis turbine assemblies (four units)

1953 to 1985

Miller Engine served as primary overflow hydro turbine manufacturing support to The James Leffel & Company in Springfield, Ohio. Additional manufacturing and machining services performed for foundries supplying hydro turbine component castings for major turbine manufacturers such as Voith Hydro and American Hydro.

FIELD INSTALLATION

Date: 2006
Project: Brasfield Project
Petersburg, VA
Customer: STS HydroPower
Description: Design, manufacture,
field installation of fish lift modifications

Date: 1997
Project: Holiday Bridge, VA
Customer: STS HydroPower
Description: Installed plates and guide
vanes in-situ, existing turbines

Date: 1996
Project: Schoolfield Project, Danville, VA
Customer: STS HydroPower
Description: Install thrust plate in
rim-drive turbine

Date: 1995
Project: Schoolfield, Danville, VA
Customer: STS HydroPower
Description: Field Inspection

Date: 1993
Project: Brasfield Project, Petersburg, VA
Customer: STS HydroPower
Description: 84" vertical Kaplan turbine;
complete installation and alignment of turbine
and generator.

Date: 1992
Project: French Paper, MI
Customer: French Paper Company
Description: Removal, rehabilitation re-assembly,
4 new runners; (1) 42" Francis; (2) Propellers
(1) 74" Propeller;

Date: 1990-91
Project: Schoolfield, VA
Customer: STS HydroPower
Description: Six 64" rim drive turbines; complete
installation and alignment to generators.

Date: 1989
Project: Kekawaka, CA
Customer: STS HydroPower
Description: 52" Impulse turbine; complete
installation and alignment of generator

Date: 1988
Project: Kanaka Powerhouse, CA

Customer: STS HydroPower
 Description: 42" Impulse turbine; complete manufacturing

Miller Engine & Machine Company, LLC

RUNNER DESIGN & MANUFACTURING LIST

REPLACEMENT RUNNERS OR RUNNER DESIGNS
 MANUFACTURED FROM PROPRIETARY DESIGN DATA

Date	State	Quantity	Size/Type	Head(ft)	Output
1983	MI	4	17" Francis	34	970 kW
1983	UT	1	19" Francis	308	1700 kW
1983	UT	2	30.5" Pelton	1860	800 kW
			39.5" Pelton	775	2100 kW
1983	UT	1	21" Francis	125	1750 kW
1983	MN	1	44" Francis	52	1417 kW
1984	ID	1	97" Propeller	57	4500 kW
1984	ID	1	37" Francis	90	2238 kW
1984	ID	2	53" Francis	83	8295 kW
1984	MI	1	42" Francis	130	1865 kW
1984	MI	1	61" Francis	20	522 kW
1984	MI	1	90" Kaplan	22	1492 kW
1985	UT	2	37" Francis	105	3500 kW
		1	29" Francis	105	1000 kW
1985	OR	2	64" Francis	220	8019 kW
1985	ID	2	30" Francis	155	5595 kW
1985	UT	2	104" Propeller	37	6863 kW
1985	ID	2	30" Francis	75	1641 kW
1985	MN	1	95" Francis	45	5818 kW
1985	MI	1	50" Francis	41	1119 kW
1985	WI	2	70.5" Francis	30	2932 kW
		1	34" Francis	30	250 kW
1985	MI	4	54" Rim-Drive	12	820 kW
1985	CO	1	45" Francis	110	2611 kW
1986	UT	2	11.5" Francis	100	370 kW
1986	MI	1	82" Kaplan	28	1492 kW
1987	WI	1	36" Francis	82	1600 kW
1987	WI	1	81" Propeller	20	895 kW
1987	MI	4	41" Francis	14	746 kW
1988	IA	1	39" Francis	26	693 kW
1988	CA	1	42" Pelton	540	1268 kW
1988	MI	1	71" Francis	32	1865 kW
1989	IA	1	72" Propeller	9	217 kW
1989	CA	1	52" Pelton	1060	5222 kW
1990	VA	6	64" Rim-Drive	28	4699 kW
1990	WA	1	52" Pelton	1340	6714 kW
1991	WI	1	104" Adj. Prop.	28	2730 kW
1991	VA	1	82" Kaplan	39	2774 kW
1992	MI	2	42" Francis	16	250 kW
		1	72" Propeller	16	400 kW
		1	74" Propeller	16	400 kW
1993	OH	2	47" Francis	35	970 kW

