

Edl, Michele

From: BComman@flowserve.com
Sent: Thursday, February 14, 2008 11:46 AM
To: Edl, Michele
Subject: Fw: help with turbine curves
Attachments: 40WTA Turbine Curve.pdf; 30WTA Turbine Curve.pdf

Michele,

I am going to be able to provide you with some of the information you are requesting on the water turbines originally supplied by Ingersoll Rand. This legacy equipment is now part of the Flowserve Pump Division.

The 30WTA & 40WTA were supplied from the Flowserve facility in Phillipsburg, New Jersey. At the time the project was referred to as the Ravenscroft Ranch Project. The following is some specific data for each of the WTA machines:

30WTA: original order number 006-36256, turbine serial number 0882101, hydraulic rating: 28,252 gpm, 46 ft, 731 rpm, 213KW, Westinghouse Electric induction generator

40WTA: original order number 006-36256, turbine serial number 0882100, hydraulic rating: 48,022 gpm, 46 ft, 553 rpm, 368KW, Westinghouse Electric induction generator

I am not able to provide any information on the third turbine without a model number or a serial number.

I hope you find this information helpful.

Regards,

Bob Cornman
Director, Technical Services NA & LA
Flowserve Pump Division
942 Memorial Parkway
Phillipsburg, NJ USA

Tel: 908-859-7256
Fax: 908-859-7482

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----- Forwarded by Bob Cornman/North America/Flowserve on 02/14/2008 08:04 AM -----

Bob Cornman/North America/Flowserve

To Michele.Edl@idwr.idaho.gov

cc

Subject Fw: help with turbine curves

02/14/2008 06:37 AM

Michele,

2/14/2008

I should be able to provide you with the requested information. Give me until mid next week to look for the information.

Regards,

Bob Cornman
Director, Technical Services NA & LA
Flowserve Pump Division
942 Memorial Parkway
Phillipsburg, NJ USA

Tel: 908-859-7256
Fax: 908-859-7482

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"Nancy Poland" <npoland@tricommtg.com>

To <jgoetz@flowserve.com>

cc

02/13/2008 07:54 AM

Subject FW: help with turbine curves

From: Edl, Michele [mailto:Michele.Edl@idwr.idaho.gov]
Sent: Monday, February 11, 2008 10:59 AM
To: fpdinformation@flowserve.com
Subject: help with turbine curves

My original request for this information was directed to Ingersoll-Rand. I was given this as a better contact for the information I need.

I am working on forensic water right licenses for a small hydro project. The project has been changed significantly since it was put online so I cannot collect the information I need by field exam. I need curves for 3 different hydro turbines that would have been purchased before 1986. I have very limited information to work with but they may have been pumps operating as turbines. I have discharge size, kW, total static head for the plant and possible model# for two of three unit.

I am hoping that your archive is capable of generating operation curves this far after the fact. But any information you could provide would be extremely helpful.

1) Ingersoll Rand turbine
Turbine discharge size:63 (cfs?)
KW: 213
Possible model number: 30 WTA
total head 46 ft

2) Ingersoll Rand turbine
Turbine discharge size:110 (cfs?)
KW: 394
Possible model number: 40 WTA

2/14/2008

Total head 46 ft

3) Byron Jackson turbine

Turbine discharge size: 32 (cfs?)

KW: 112

No model number given

Total head 46 ft.

Getting any additional information on this last one will be a bonus for me.

I am not even sure that I am dealing with a Pump As Turbine system.

Westinghouse is mentioned as possible maker for generators on all three units but I have no further.

Thanks

Michele Edl

Associate Engineer

Idaho Department of Water Resources

Boise Idaho

208-287-4946

CUSTOMER V.F. RAVENSCROFT
 PROPOSAL NO. VHT-1015 ITEM 1
 SPECIAL NOTES

DESIGN CONDITIONS
 GPM 48,022 EFF 89.5%
 T.H. (FT) 46 N.W. 368 SG.
 RPM 565 DRIVER HP

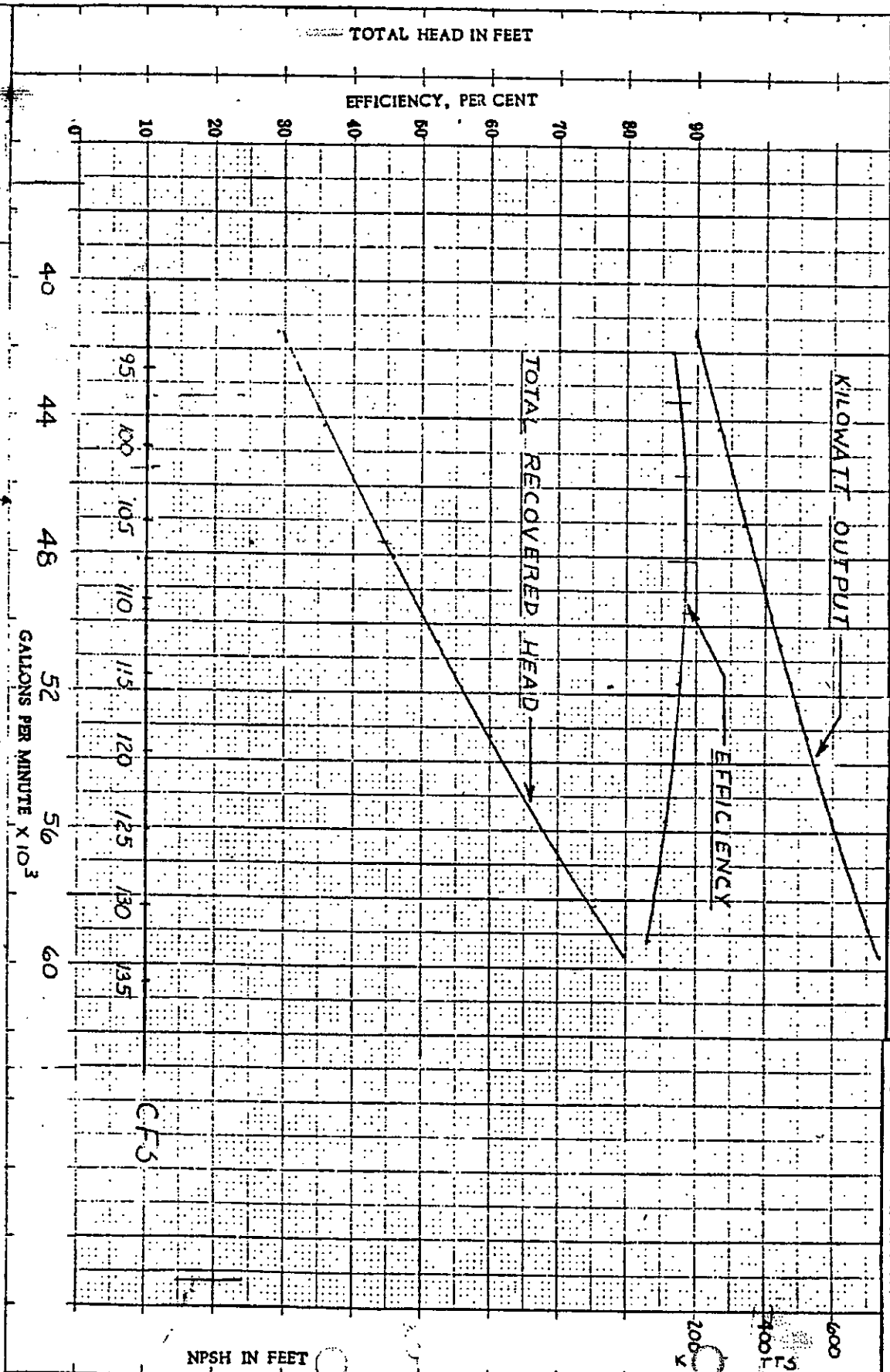
I. Ingersoll-Rand

DRAWN BY J.E. MURPHY DATE 1 MR 82

CURVE 40 WTA-1

PUMP 40 WTA

Curves are approximate. Pump is guaranteed for one set of conditions. Capacity, head and efficiency guarantees are based on shop test and when handling liquid, cold, fresh water at a temperature of not over 60 degrees and not over 15 suction ft.



NPSH IN FEET

CUSTOMER V.E. RAVENSCROFT
PROPOSAL NO. VHT-1015 ITEM 2
SPECIAL NOTES

DESIGN CONDITIONS
GPM 28,251 EFF 8.1%
T.M.(FT) 46 KW: 213 SG.
RPM 731 DRIVER HP

R. Ingersoll-Rand

DRAWN BY J.E. MURPHY DATE 1/12/92

CURVE 30 WTA-2
PUMP 30 WTA

Curves are appropriate. Pump is guaranteed for one year at conditions. Capacity, head and efficiency guarantees are based on clean, cold, fresh water at a temperature of not over 85 degrees and not over 15' suction lift.

