

Padilla, Cherie

From: Kevin Lakey [watermanager@cableone.net]
Sent: Tuesday, November 27, 2007 11:17 AM
To: Padilla, Cherie
Subject: Measuring conditions for 37-21297

Attachments: HYDRO 2006.xls



HYDRO 2006.xls
(58 KB)

Cherie,

I am enclosing the spreadsheet that is used to calculate flow through small hydro-power plants here in district 37 & 37M. By reading some of the files, this program was provided by Idaho Power. I understand its calculations, but I can't find anything in the files that explains the reasoning.

In talking to the current plant owners, they are all satisfied with the results, but some sort of data logger(as mentioned in the conditions) would be good to identify any severe fluctuations in flow that might be caused by the hydropower plant. In this area, Northside Canal Company has used a very inexpensive data logger to keep the hydropower operators in their system honest. The datalogger doesn't show exact flow amounts, but shows changes in flow.

Besides using my spreadsheets, I would like to see some sort of inexpensive datalogger installed to identify any severe fluctuations in flow. I don't know how you would write that up, and I may have made your job more difficult, but some combination of the two would work for me. If you have further questions, feel free to call or email.

Kevin Lakey
Water Districts 37 & 37M

Apr-06

HYDRO KW TO CFS

OWNER	GROSS KW	24 HR	11.8	OWNER HEAD	HEAD	EFFEC PERCENT	24 HR CFS
Sho Rock Hydro	537,360	22390.0	264202.0	46.0	5743.5	82.00%	7004.29
Notch Butte Hydr	528,000	22000.0	259600.0	31.5	8241.3	82.00%	10050.33
Arkoosh Hydro	539,600	22483.3	265303.3	31.5	8422.3	80.00%	10527.91
Koyle Hydro	569,600	23733.3	280053.3	60.0	4667.6	80.00%	5834.44
Ravenscroft Hydr	395,200	16466.7	194306.7	49.0	3965.4	80.00%	4956.80

May-06

HYDRO KW TO CFS

OWNER	GROSS KW	24 HR	11.8	OWNER HEAD	HEAD	EFFEC PERCENT	24 HR CFS
Sho Rock Hydro	653400	27225.0	321255.0	46.0	6983.8	82.00%	8516.83
Notch Butte Hydr	672000	28000.0	330400.0	31.5	10488.9	82.00%	12791.33
Arkoosh Hydro	648800	27033.3	318993.3	31.5	10126.8	80.00%	12658.47
Koyle Hydro	508800	21200.0	250160.0	60.0	4169.3	80.00%	5211.67
Ravenscroft Hydr	381600	15900.0	187620.0	49.0	3829.0	80.00%	4786.22

Jun-06

HYDRO KW TO CFS

OWNER	GROSS KW	24 HR	11.8	OWNER HEAD	HEAD	EFFEC PERCENT	24 HR CFS
Sho Rock Hydro	614760	25615.0	302257.0	46.0	6570.8	82.00%	8013.18
Notch Butte Hydr	602400	25100.0	296180.0	31.5	9402.5	82.00%	11466.51
Arkoosh Hydro	597200	24883.3	293623.3	31.5	9321.4	80.00%	11651.72
Koyle Hydro	528000	22000.0	259600.0	60.0	4326.7	80.00%	5408.33
Ravenscroft Hydr	275360	11473.3	135385.3	49.0	2763.0	80.00%	3453.71

Jul-06

HYDRO KW TO CFS

OWNER	GROSS KW	24 HR	11.8	OWNER HEAD	HEAD	EFFEC PERCENT	24 HR CFS
Sho Rock Hydro	658240	27426.7	323634.7	46.0	7035.5	82.00%	8579.92
Notch Butte Hydr	650400	27100.0	319780.0	31.5	10151.7	82.00%	12380.18
Arkoosh Hydro	639800	26658.3	314568.3	31.5	9986.3	80.00%	12482.87
Koyle Hydro	507200	21133.3	249373.3	60.0	4156.2	80.00%	5195.28
Ravenscroft Hydr	244320	10180.0	120124.0	49.0	2451.5	80.00%	3064.39

Aug-06			HYDRO KW TO CFS				
OWNER	GROSS KW	24 HR	11.8	OWNER HEAD	HEAD	EFFEC PERCENT	24 HR CFS
Sho Rock Hydro	673240	28051.7	331009.7	46.0	7195.9	82.00%	8775.44
Notch Butte Hydro	621600	25900.0	305620.0	31.5	9702.2	82.00%	11831.98
Arkoosh Hydro	622600	25941.7	306111.7	31.5	9717.8	80.00%	12147.29
Koyle Hydro	592000	24666.7	291066.7	60.0	4851.1	80.00%	6063.89
Ravenscroft Hydro	347360	14473.3	170785.3	49.0	3485.4	80.00%	4356.77

Sep-06			HYDRO KW TO CFS				
OWNER	GROSS KW	24 HR	11.8	OWNER HEAD	HEAD	EFFEC PERCENT	24 HR CFS
Sho Rock Hydro	636960	26540.0	313172.0	46.0	6808.1	82.00%	8302.55
Notch Butte Hydro	553200	23050.0	271990.0	31.5	8634.6	82.00%	10530.00
Arkoosh Hydro	545200	22716.7	268056.7	31.5	8509.7	80.00%	10637.17
Koyle Hydro	566400	23600.0	278480.0	60.0	4641.3	80.00%	5801.67
Ravenscroft Hydro	462880	19286.7	227582.7	49.0	4644.5	80.00%	5805.68