

ANNUAL SUMMARY 2010

RECORD OF FLOWS BELOW 2.2CMS

DATE	TIME	DURATION	REASON	REMEDY
04-Jun-10	7:21pm	39m11h	ENERDU shutdown	Auto shutdown, wait for ENERDU to restart
05-Jun-10	7:41pm	11h12m	ENERDU shutdown	Auto shutdown, wait for ENERDU to restart
06-Jun-10	7:08pm	7h20m	ENERDU shutdown	Auto shutdown, wait for ENERDU to restart
08-Jun-10	8:09pm	10h39m	ENERDU Shutdown	Auto shutdown, wait for ENERDU to restart
22-Jun-10	11:00am	8m	ENERDU Shutdown	Auto shutdown, wait for ENERDU to restart
11-Jun-10	6:49pm	10h	ENERDU shutdown	Auto shutdown, wait for ENERDU to restart
17-Jun-10	7:23pm	21m	ENERDU shutdown	Auto shutdown, wait for ENERDU to restart
30-Jun-10	8:21am	7h21m	Level lowered in headpond to provide safety for surveyors	Headpond setpoint restored on automation system once surveyors were clear of the site.
5-Jul-10	8:11am	33m	ENERDU - sudden shutdown of one unit.	Our units shut back to avoid a big drop in the headpond. It took 1/2 hour for level to return to normal.

14-Jul-10	11:05am	2m	Auto start of our unit.	The automation system overshot the startup, bringing the unit on at a level too high for the available water. The system caught the problem and adjusted itself quickly.
16-Jul-10	7:17am	7m	Auto start of our unit.	The automation system overshot the startup, bringing the unit on at a level too high for the available water. The system caught the problem and adjusted itself quickly.
16-Jul-10	12:12pm	<1	ENERDU - Testing, sudden shutdowns/startups, resulting in 4 quick drops below normal level over period of 1.5 hours (less than one minute each).	Each time our unit automatically shut back when the headpond dropped, then increased as the headpond rose. The final time, our unit auto shut down, bringing the pond way up.
17-Jul-10	10:14am	7m	Auto start of our unit.	The automation system overshot the startup, bringing the unit on at a level too high for the available water. The system caught the problem and adjusted itself.
19-Jul-10	12:05am	26m	Auto start of our unit. Two attempted starts during 26m period. Headpond dipped below normal level twice for a few	The automation system overshot the startup, bringing the unit on at a level too high for the available water. The system caught the problem and

			minutes each time.	adjusted itself.
20-Jul-10	10:32am	7m	ENERDU - Sudden spike the shut down of one unit.	Our unit shut back and continued to do so until headpond came back to normal levels.
23-Jul-10	8:49am	1h6m	Equipment malfunction - wicket gates	That unit was taken offline, repair scheduled for July 27-29
26-Jul-10	7:13am	12h18m	ENERDU - Sudden shutdown and remained off all night	Our unit shut down automatically restarted once ENERDU restarted.
28-Jul-10 29-Jul-10		15m	Repairs and Testing	Electrical and Automation System contractors onsite to repair, improve and test the system. Water dipped normal level a few times during 2 day period (for a total of approx. 15 min.)
31-Jul-10	7:44pm	11m	ENERDU - Sudden shutdown and remained off all night	Our unit shut down automatically restarted once ENERDU restarted.
2-Aug-10	10:20pm	7h30m	ENERDU - Sudden shutdown and remained off all night	Our unit shut down automatically and restarted once ENERDU restarted
8-Aug-10	12:51pm	6h21m	ENERDU was still shut down from the night before. Our unit tried to restart several times in the afternoon as water level rose.	Unit stopped automatically when level began to drop again. Restarted one ENERDU restarted.

19-Aug-10	3:21am	6h56m	Turbine supplier performing maintenance, left automation system on "Gate Control" instead of "Pond Control", so when flows in the river decreased overnight the system did not shut back as it would on "Pond Control".	Problem spotted by operator in the morning. System switched back to "Pond Control" mode.
11-Sep-10	8:39am	7m	Shutdown of one of ENERDU's units.	Our system reacted quickly but dropped slightly below 2.2cms for a few minutes while trying to regulate flow intake.
23-Sep-10	1:26pm	4m	Shutdown of one of ENERDU's units.	Our system reacted quickly but dropped slightly below 2.2cms for a few minutes while trying to regulate flow intake.
28-Sep-10	10:42am	11m	Installation of a new headpond sensor.	After installation of the new sensor, the system was switched over so that it reads the level from the new location (further out in the headpond) Old sensor remains in place as spare.
26-Oct-10	4:43PM	2m	System taking too much water for a very short period of time.	Our system reduced water intake but was unable to do so quickly enough. The flow over the weir dropped slightly below 2.2cms for

				roughly 2 minutes.
25-Dec-10	6:59AM	3m	Frazil ice problems	Frazil ice preventing adequate supply of water from entering through racks. System trying to pull more and more water in to compensate. System adjusted and shut units back.
25-Dec-10	11:49PM	1h1m	Severe frazil ice problems	Frazil ice blocking racks and causing backups at other dams upstream, resulting in lower river levels. Racks were cleaned and units shut down multiple times while attempting to remedy the situation.
26-Dec-10	10:31PM	2h16m	Severe frazil ice problems	same as above
27-Dec-10	7:02AM	1h49m	Severe frazil ice problems	same as above