

UPPCO - Cataract Hydro Project Analysis

July 2010

2010 NPV Revenue Requirement - \$ Million

Line #		<u>Base</u>	<u>Best</u>	<u>Worst</u>
1	Option 3 - Sell Facility	\$4.14	\$4.14	\$4.14
2				
3	Option 1 - Surrender License and Abandon Facility	\$5.07	\$3.87	\$7.46
4				
5	Option 4 - Upgrade and Operate Facility	\$7.40	\$6.54	\$8.98

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Data and Assumptions

Line #	Base Case	Best Case	Worst Case
1	<u>Common Assumptions</u>		
2	Jan-10	Jan-10	Jan-10
3	Feb-37	Feb-37	Feb-37
4	2009	2009	2009
5	2.00%	2.00%	2.00%
6	9.00%	9.00%	9.00%
7	2010	2010	2010
8	\$831,818	\$831,818	\$831,818
9	50%	50%	50%
10	\$35,358	\$35,358	\$35,358
11	2.20%	2.20%	2.20%
12	1	1	1
13	10	10	10
14			
15	<u>Capacity and Energy Ratings</u>		
16	314	314	314
17	3,532	3,532	3,532
18	2009	2009	2009
19	2100	2100	2100
20			
21			
22	<u>Sell Facility - Option 3</u>		
23	\$725,000	\$725,000	\$725,000
24	\$1,725,000	\$1,725,000	\$1,725,000
25	Oct 2010-Dec 2012	Oct 2010-Dec 2012	Oct 2010-Dec 2012
26	10	10	10
27	1	1	1
28	10	10	10
29	\$55.00	\$55.00	\$55.00
30	greater of 3% or CPI	greater of 3% or CPI	greater of 3% or CPI
31	\$7.00	\$7.00	\$7.00
32	greater of 3% or CPI	greater of 3% or CPI	greater of 3% or CPI
33			
34	UPPCo will purchase all power produced for a 10 year term		
35	Recover the net of the Impairment, the Sale Price, and the Additional Investment over 10 years, with carrying costs starting Jan 1, 2011		
36	Assume that costs for PPA are 2010 dollars, but PPA starts when the units starts to generate after repairs.		
37			
38			
39	<u>Upgrade and Operate Facility - Option 4</u>		
40	\$3,500,000	\$2,800,000	\$4,800,000
41	Oct 2010-Dec 2012	Oct 2010-Dec 2012	Oct 2010-Dec 2012
42	\$125,000	\$125,000	\$125,000
43	Remaining Licence Period	Remaining Licence Period	Remaining Licence Period
44	MACRS 20 year	MACRS 20 year	MACRS 20 year
45	Oct-12	Oct-12	Oct-12
46	Recover repair costs over remaining life of license		
47	Reverse impairment and recover over remaining life		
48			
49			
50	<u>Surrender License and Abandon Facility - Option 1</u>		
51	\$2,832,500	\$1,416,250	\$5,665,000
52	\$15,000	\$15,000	\$15,000
53	Oct 2010 - Dec 2013	Oct 2010 - Dec 2013	Oct 2010 - Dec 2013
54	916	916	916
55	\$1,741,000	\$1,741,000	\$1,741,000
56	10	10	10
57	1	1	1
58			
59	Recover abandon and removal costs over 10 years, with carrying costs starting Jan 1, 2014		
60	Recover impairment over 5 years, no carrying costs, starting Jan 1, 2011		
61	Recover 50% of Project Land Sales over 3 years, no carrying costs, starting Jan 1, 2014		
62	Remove all above ground facilities of the 12.5 kV interconnection, buried facilities will be abandoned in the ground		

Line #

1 Cost Scenario: Surrender License and Abandon Facility

2 Option 1

	<u>Base Case</u>	<u>Best Case</u>	<u>Worst Case</u>
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	<u>\$2,822,500</u>	<u>\$1,411,250</u>	<u>\$5,645,000</u>

Line #

1	Cost Scenario: Upgrade and Operate Facility			
2	Option 4			
3		<u>Base Case</u>	<u>Best Case</u>	<u>Worst Case</u>
4	Engineering	\$350,000	\$300,000	\$475,000
5	Site Investigation	\$100,000	\$75,000	\$125,000
6	Mobilization, demob	\$175,000	\$125,000	\$175,000
7	Erosion Control	\$50,000	\$50,000	\$100,000
8	Demolition	\$180,000	\$150,000	\$180,000
9	Concrete Repair (intake)	\$200,000	\$150,000	\$400,000
10	New Head Gate	\$250,000	\$150,000	\$300,000
11	Penstock installation	\$1,200,000	\$1,000,000	\$1,500,000
12	Electrical controls	\$50,000	\$25,000	\$175,000
13	Site Construction manager/facilities	\$100,000	\$70,000	\$150,000
14	Project Management	\$125,000	\$100,000	\$175,000
15	Quality Control and testing	\$250,000	\$200,000	\$475,000
16	Other	\$470,000	\$405,000	\$570,000
17	Estimated Total Project Cost	<u><u>\$3,500,000</u></u>	<u><u>\$2,800,000</u></u>	<u><u>\$4,800,000</u></u>