



Electric Municipalization Village of Hinsdale, Illinois

Preliminary Feasibility Study
Latham & Associates, Inc.

Robert J. Latham, President



Overall Analysis

- Acquiring Distribution Lines and Substations
- Purchasing Power at Wholesale
- Operating a Municipal Electric System





Focus

- Reliability
- Reinvestment
- Rates





Reliability

- Open Transmission Access
- System Upgrade History
- System Vintage



Vintage-Distribution System

Total Circuit Footage = 293,617

Vintage/\$/Unit 2007	Ft. 3Ph OH		Ft. 1Ph UG	Ft. 3Ph UG	Total
	Ft. 1Ph OH	or UB			
	\$ 15.00	\$ 30.00	\$ 20.00	\$ 40.00	
1950	0.080	0.070	0.000	0.000	0.150
1960	0.140	0.300	0.000	0.000	0.440
1970	0.040	0.050	0.005	0.020	0.115
1980	0.040	0.025	0.010	0.050	0.125
1990	0.040	0.025	0.005	0.020	0.090
2000	0.040	0.025	0.005	0.010	0.080
	0.380	0.495	0.025	0.100	1.000
Projected 2007					
Est. Replacement \$	\$ 1,673,617	\$4,360,212	\$ 146,809	\$1,174,468	\$7,355,106
Est. Replace. Cost Deprec. \$	\$ 320,043	\$ 400,053	\$ 62,149	\$ 428,681	\$1,210,925
Est. Original Cost Deprec. \$	\$ 261,856	\$ 327,321	\$ 48,919	\$ 317,531	\$ 955,627

Plan: Obtain 90% Underground (UG) within 9 Years Beginning in Mid-Year 2, \$ Estimate is Net of Salvage

Year	Ft 3PH	3 PH \$/Ft	Ft 1PH	1 PH \$/Ft	Meters/ Transf/ Serv	Total
	130,806	55.00	100,417	28.00	\$15,000,000	\$25,000,000

Cost Excludes Customer Electrician Cost for Meter Base to Panel Box Changeout to UG





Reinvestment

- Base Case System Reinvestment
- Underground Service Investment
- Transmission/Substation Investment



Investment Summary

Base Case

Buyout Investment Type	Estimated Replacement Depreciated	Estimated Original Depreciated	Estimated Replacement Cost
Distribution Lines	\$ 1,210,925	\$ 955,627	\$ 7,355,106
Lights	\$ 47,103	\$ 37,172	\$ 286,100
Residential Meter/Services/Transformers	\$ 922,323	\$ 727,871	\$ 5,602,150
General Service Meter/Serv/Trfr	\$ 571,601	\$ 451,091	\$ 3,471,880
Large General Service Meter/Serv/Trfr	\$ 388,449	\$ 306,388	\$ 2,017,800
Substations \$	\$ 675,000	\$ 404,325	\$ 2,250,000
Other/Bonding/Contingency 10%	\$ 381,540	\$ 288,247	\$ 2,098,304
Subtotal Buyout + Bonding + Contingency	\$ 4,196,942	\$ 3,170,721	\$ 23,081,339

Note-1: Buyout Investments above are at Tax Non-Preference Interest Rates

Note-2: Other Investments below are at Tax Preference Interest Rates

Other Investment Type	Estimated Replacement Depreciated	Estimated Original Depreciated	Estimated Replacement Cost
Inventory @ 3% of Subtotal	\$ 692,440	\$ 692,440	\$ 692,440
Operations Facility	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Primary Metering Separation \$	\$ 144,000	\$ 144,000	\$ 144,000
Court Condemnation Costs	\$ 250,000	\$ 250,000	\$ 250,000
Operations Startup Costs	\$ 250,000	\$ 250,000	\$ 250,000
Power Supply Startup Costs	\$ 100,000	\$ 100,000	\$ 100,000
Conversion 90% OH to UG		\$ -	\$ -
138 KV Transmission and Substation		\$ -	\$ -
Other/Bonding/Contingency 10%	243,644	243,644	243,644
Subtotal Investments above Buyout	\$ 2,680,084	\$ 2,680,084	\$ 2,680,084
Total Village Buyout & Investment Costs	\$ 6,877,026	\$ 5,850,805	\$ 25,761,424



Investment Summary

System Improvement

Buyout Investment Type	Estimated Replacement Depreciated	Estimated Original Depreciated	Estimated Replacement Cost
Distribution Lines	\$ 1,210,925	\$ 955,627	\$ 7,355,106
Lights	\$ 47,103	\$ 37,172	\$ 286,100
Residential Meter/Services/Transformers	\$ 922,323	\$ 727,871	\$ 5,602,150
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Subtotal Buyout + Bonding + Contingency	\$ 4,196,942	\$ 3,170,721	\$ 23,081,339

Note-1: Buyout Investments above are at Tax Non-Preference Interest Rates

Note-2: Other Investments below are at Tax Preference Interest Rates

Other Investment Type	Estimated Replacement Depreciated	Estimated Original Depreciated	Estimated Replacement Cost
Inventory @ 3% of Subtotal	\$ 692,440	\$ 692,440	\$ 692,440
Operations Facility	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Primary Metering Separation \$	\$ 54,000	\$ 54,000	\$ 54,000
Court Condemnation Costs	\$ 250,000	\$ 250,000	\$ 250,000
Operations Startup Costs	\$ 250,000	\$ 250,000	\$ 250,000
Power Supply Startup Costs	\$ 100,000	\$ 100,000	\$ 100,000
Conversion 90% OH to UG	\$ 25,000,000	\$ 25,000,000	\$ 25,000,000
138 KV Transmission and Substation	\$ 15,000,000	\$ 15,000,000	\$ 15,000,000
Other/Bonding/Contingency 10%	4,234,644	4,234,644	4,234,644
Subtotal Investments above Buyout	\$ 46,581,084	\$ 46,581,084	\$ 46,581,084
Total Village Buyout & Investment Costs	\$ 50,778,026	\$ 49,751,805	\$ 69,662,424





Rates

- Existing and Projected Rates
 - ComEd
 - ARES
- Projected Municipal Utility Rates
- Net Present Value of Municipalization





Net Present Value of Municipalization

- Assumptions
- Distribution System Valuation
- Net Present Value Model





Distribution System Valuation

- Bases for Valuation
 - Replacement Cost Depreciated
 - Original Cost Depreciated
- Engineering Field Assessments
- Distribution System
 - Facility Cost
 - Vintage Differences



Village-Specific Assumptions

City/Village:	Hinsdale, IL	Power Supply Transmission Losses	1.60%
Utility	ComEd	Wholesale Deliv. Energy/kWh \$	\$ 0.02000
Wholesale Del. Voltage (kV):	34.5 and 12.5 KV	4 Months Summer Wholesale Deliv. Demand/kW/Month	\$ 15.00
Year 1:	2007	8 Months Winter Wholesale Deliv. Demand/kW/Month	\$ 15.00
Wholesale Delivery Meters	2	Transmission including Congestion \$/kWh	\$ 0.002830
Population	17,898	Administrative and Ancillary Services \$/kWh	\$ 0.000450
Whol. Del. Meter Volt.(kV):	12.5	Distribution System Losses %	7.00%
Electric Franchise:		Village Growth kWh % Yrs1-8/Yrs 9-25	3.00%
	Granted: 6/2/1992	Delivery Tax Rate/kWh	\$ -
	Years: 55	City Annual Load Factor %	51%
	Expires: 6/2/2047	City Residential kWh Concentration %	47%
	Franchise re-opener 6/2/2032	RCD NPV/Population \$	\$ 6,563
Other City Utilities:	No prohibition to acquire electric system	Annual Inflation %	3.00%
	Natural Gas: No	Replacment Investment Factor/Year	4.00%
	Water : Yes	Transformer Loss Factor	0.70%
	Waste Water Yes	Customer Charge/Month	\$ -
	Storm Water Yes	Directly Assigned Facilities Charge/Year \$	\$ 452,585

Neighboring utilities for potential distribution operati Geneva, Batavia, Naperville et al



Net Present Value Base Case

ITEM	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6	Yr. 7	Yr. 8
1								
2 Operating Expenses:								
3 Interest on Buyout \$	\$ 246,780	\$ 236,708	\$ 226,635	\$ 216,562	\$ 206,490	\$ 196,417	\$ 186,344	\$ 176,272
4 Interest on Investment,Net Reserve \$	\$ 171,567	\$ 203,060	\$ 233,910	\$ 264,757	\$ 295,603	\$ 326,453	\$ 357,314	\$ 388,190
5 Purchased Power	\$ 12,544,552	\$13,200,672	\$13,892,688	\$14,622,580	\$15,392,438	\$16,204,471	\$17,061,007	\$17,964,507
6 Distribution O&M (Inflation Growth)	\$ 2,534,720	\$ 2,610,762	\$ 2,689,084	\$ 2,769,757	\$ 2,852,850	\$ 2,938,435	\$ 3,026,588	\$ 3,117,386
7 Cust. Acct. Admin & Gen. (Inflation Gr.)	\$ 1,223,600	\$ 1,260,308	\$ 1,298,117	\$ 1,337,061	\$ 1,377,173	\$ 1,418,488	\$ 1,461,042	\$ 1,504,874
8 Amortization on Buyout from Capital	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878
9 Invest./Depreciation from Capital	\$ 114,314	\$ 140,040	\$ 166,539	\$ 193,832	\$ 221,944	\$ 250,900	\$ 280,724	\$ 311,443
10 Village In Lieu Of Tax (Sales and Inflation Growth)	\$ 591,158	\$ 627,160	\$ 665,354	\$ 705,874	\$ 748,861	\$ 794,467	\$ 842,850	\$ 894,180
11 State Tax (Sales and Inflation Growth)	\$ 629,188	\$ 667,506	\$ 708,157	\$ 751,284	\$ 797,037	\$ 845,577	\$ 897,072	\$ 951,704
12 Renewal Energy & Assistance (Sales and Inflation Growth)	\$ 88,436	\$ 93,822	\$ 99,535	\$ 105,597	\$ 112,028	\$ 118,851	\$ 126,089	\$ 133,767
13 Total Operating Expenses	\$ 18,312,193	\$19,207,914	\$20,147,898	\$21,135,181	\$22,172,301	\$23,261,936	\$24,406,908	\$25,610,200
14								
15 ComEd/ARES Est. Rev.(Sales&Infl.Growth)	\$ 19,893,926	\$21,105,466	\$22,390,789	\$23,754,388	\$25,201,030	\$26,735,773	\$28,363,981	\$30,091,348
16 Village Est. Savings \$/Yr with Improvements	\$ 1,581,733	\$ 1,897,551	\$ 2,242,891	\$ 2,619,207	\$ 3,028,729	\$ 3,473,837	\$ 3,957,073	\$ 4,481,148
17 Village Estimated Savings %/Yr	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	14.9%
18								
	\$117,472,751							
19								
20 Interest %/Yr---Buyout--Taxable	6.00%							
21 Interest %/Yr---Investment--Tax Preference	4.50%							
22 Years Buyout Financed	25							
23 NPV Discount Rate %	4.50%							



Net Present Value Improvement Case

ITEM	Yr.	Yr.	Yr.	Yr.	Yr.	Yr.	Yr.	Yr.
	1	2	3	4	5	6	7	8
1								
2 Operating Expenses:								
3 Interest on Buyout \$	\$ 246,780	\$ 236,708	\$ 226,635	\$ 216,562	\$ 206,490	\$ 196,417	\$ 186,344	\$ 176,272
4 Interest on Investment,Net Reserve \$	\$ 2,098,323	\$ 2,052,967	\$ 1,995,342	\$ 1,937,817	\$ 1,880,398	\$ 1,823,094	\$ 1,765,914	\$ 1,708,866
5 Purchased Power	\$12,544,552	\$ 13,200,672	\$13,892,688	\$14,622,580	\$15,392,438	\$16,204,471	\$17,061,007	\$17,964,507
6 Distribution O&M (Inflation Growth)	\$ 2,534,720	\$ 2,610,762	\$ 2,689,084	\$ 2,769,757	\$ 2,852,850	\$ 2,938,435	\$ 3,026,588	\$ 3,117,386
7 Cust. Acct, Admin & Gen. (Inflation Gr.)	\$ 1,223,600	\$ 1,260,308	\$ 1,298,117	\$ 1,337,061	\$ 1,377,173	\$ 1,418,488	\$ 1,461,042	\$ 1,504,874
8 Amortization on Buyout from Capital	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878	\$ 167,878
9 Invest./Depreciation from Capital	\$ 1,560,827	\$ 1,568,660	\$ 1,576,728	\$ 1,585,038	\$ 1,593,597	\$ 1,602,413	\$ 1,611,493	\$ 1,620,846
10 Village In Lieu Of Tax (Sales and Inflation Growth)	\$ 591,158	\$ 627,160	\$ 665,354	\$ 705,874	\$ 748,861	\$ 794,467	\$ 842,850	\$ 894,180
11 State Tax (Sales and Inflation Growth)	\$ 629,188	\$ 667,506	\$ 708,157	\$ 751,284	\$ 797,037	\$ 845,577	\$ 897,072	\$ 951,704
12 Renewal Energy & Assistance (Sales and Inflation Growth)	\$ 88,436	\$ 93,822	\$ 99,535	\$ 105,597	\$ 112,028	\$ 118,851	\$ 126,089	\$ 133,767
13 Total Operating Expenses	\$21,685,463	\$ 22,486,441	\$23,319,518	\$24,199,446	\$25,128,749	\$26,110,089	\$27,146,277	\$28,240,278
14								
15 ComEd/ARES Est. Rev.(Sales&Infl.Growth)	\$19,893,926	\$ 21,105,466	\$22,390,789	\$23,754,388	\$25,201,030	\$26,735,773	\$28,363,981	\$30,091,348
16 Village Est. Savings \$/Yr with Improvements	\$ (1,791,537)	\$ (1,380,975)	\$ (928,730)	\$ (445,059)	\$ 72,281	\$ 625,683	\$ 1,217,704	\$ 1,851,070
17 Village Estimated Savings %/Yr	-9.0%	-6.5%	-4.1%	-1.9%	0.3%	2.3%	4.3%	6.2%
18	\$81,661,748							
19								
20 Interest %/Yr---Buyout--Taxable		6.00%						
21 Interest %/Yr---Investment--Tax Preference		4.50%						
22 Years Buyout Financed		25						
23 NPV Discount Rate %		4.50%						

Note: Village would likely delay replacement of overhead with underground to Yr-5 or 6



Net Present Value Sensitivity Scenarios

Scenarios at Replacement Cost Depreciated	NPV \$ at Base Projection	NPV \$ at 25% Higher Buyout & Investment Cost	NPV \$ at 25% Higher Buyout & Investment Cost and 25% Higher O&M	NPV \$ at 25% Higher Buyout & Investment Cost and 25% O&M and 0.5% Higher Interest
Base Case - Current System Reliability	\$ 117,472,751	\$ 112,963,944	\$ 93,108,355	\$ 85,142,577
Replace OH Distribution with UG For Reliability	\$ 97,794,658	\$ 95,857,743	\$ 76,002,154	\$ 67,585,841
Replace OH with UG and New 138 KV Transmission and Substation For Reliability (Adj. Pri. Metering)	\$ 81,661,748	\$ 79,724,833	\$ 59,869,244	\$ 51,276,313

The above investment costs do not reflect sensitivities on underground and substation improvements.

