

Panasonic Battery Demonstration Project

Project Cost Tracking					
ICT Component Breakdown	ICT Estimate	FERC Accounting Category	Actual/Forecast	Variance	Variance Explanation
Battery Storage System	\$ 2,300,000	Battery Storage	\$ 2,480,471	\$ 180,471	Required changes made during detailed design phase resulted in slightly higher total cost
Carport PV	\$ 3,400,000	Solar	\$ 2,665,080	\$ (734,920)	Savings largely reflects price reductions Panasonic was able to provide
Distribution Equipment	\$ 150,000	D-Line	\$ 648,744	\$ 188,744	Final communications and network architecture design resulted in additional costs for distribution control equipment
Control Equipment	\$ 100,000				
Metering	\$ 210,000				
Communications Equipment	\$ 510,000	Communications	\$ 87,655	\$ (422,345)	Re-designed communications architecture reduced the expected cost of running fiber to the site
Integration Costs	\$ 530,000	Business Systems	\$ 407,938	\$ (122,062)	Final design of network architecture resulted in cost savings
Warranty, O&M	\$ 620,000		\$ 543,079	\$ (76,921)	Savings largely reflects the value of O&M Panasonic is providing
Panasonic Contribution (Preferred pricing, O&M Services)	\$ (1,100,000)				
	\$ 6,720,000		\$ 6,832,967		

FERC Accounting Category	WO #	ICT Filing	Current Estimate	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Battery Storage	300000001554	\$ 2,100,000	\$ 2,480,471	\$ 1,180,172	\$ 1,300,298										
Solar	300000001555	\$ 3,100,000	\$ 2,665,080	\$ 1,495,849	\$ 1,169,231										
D-Line	300000001552	\$ 460,000	\$ 648,744	\$ 108,270	\$ 540,474										
Communications	300000001553	\$ 510,000	\$ 87,655	\$ 47,298	\$ 40,356										
Business Systems	300000001556	\$ 530,000	\$ 407,938	\$ 177,210	\$ 230,728										
Total Capital Costs		\$ 6,700,000	\$ 6,289,888	\$ 3,008,800	\$ 3,281,088	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Battery Storage O&M	300000001559	\$ 20,000	\$ 360,135	\$ -	\$ -	\$ 13,260	\$ 13,525	\$ 13,796	\$ 35,720	\$ 90,435	\$ 37,163	\$ 37,907	\$ 38,665	\$ 39,438	\$ 40,227
Solar O&M	300000001560	\$ -	\$ 141,726	\$ -	\$ 41,208	\$ 9,180	\$ 9,364	\$ 9,551	\$ 9,742	\$ 9,937	\$ 10,135	\$ 10,338	\$ 10,545	\$ 10,756	\$ 10,971
D-Line O&M	300000001557	\$ -	\$ -	\$ -	\$ -										
Communication O&M	300000001558	\$ -	\$ -	\$ -	\$ -										
Business Systems O&M	300000001561	\$ -	\$ 41,217	\$ -	\$ 14,401	\$ 2,449	\$ 2,498	\$ 2,548	\$ 2,599	\$ 2,651	\$ 2,704	\$ 2,758	\$ 2,813	\$ 2,869	\$ 2,927
Total O&M Costs		\$ 20,000	\$ 543,079	\$ -	\$ 55,609	\$ 24,889	\$ 25,387	\$ 25,895	\$ 48,061	\$ 103,022	\$ 50,003	\$ 51,003	\$ 52,023	\$ 53,063	\$ 54,125
Grand Total			\$ 6,832,967												

Business Systems O&M		
Iron Mountain Software Escrow	\$12,000	one-time
OSI-PI Server	\$ 901.00	annual cost
OSI-PI License	\$ 1,500.00	annual cost
	\$ 2,401.00	
Battery Storage O&M		
Extended Warranty	\$ 54,000.00	one time
Panasonic Estimate	\$ 13,000.00	annual cost
O&M Beyond year 3	\$ 20,000.00	annual cost
Solar O&M		
DIA Lease payment	\$ 41,208.00	one time
Panasonic Estimate	\$ 9,000.00	annual cost
Escalator	2.00%	annual

Extended warranty cost from LG for years 6-10. Expected to purchase in year 5
 Estimated at \$13,000/yr for "non-covered" O&M (rental equipment, materials, etc.)
 Estimate for extending software technical services Younicos provides for Panasonic
 Upfront lease payment of \$340/acre X 6 acres X 20 years + 1% overhead
 Estimated at \$9,000/yr for "non-covered" O&M (rental equipment, materials, etc.)
 Estimated rate of inflation