



Presentation on the RPCL Model of Operations

RPCL Business Plan

COM Presentation



RPCL Business Plan

Model 1) RPCL managing the O&M of the facilities itself with all functions in-house.

Model 2) RPCL contracting out O&M responsibility to third-party contractor.

Model 3) RPCL managing O&M supported by expert advisors during the initial years of operations.

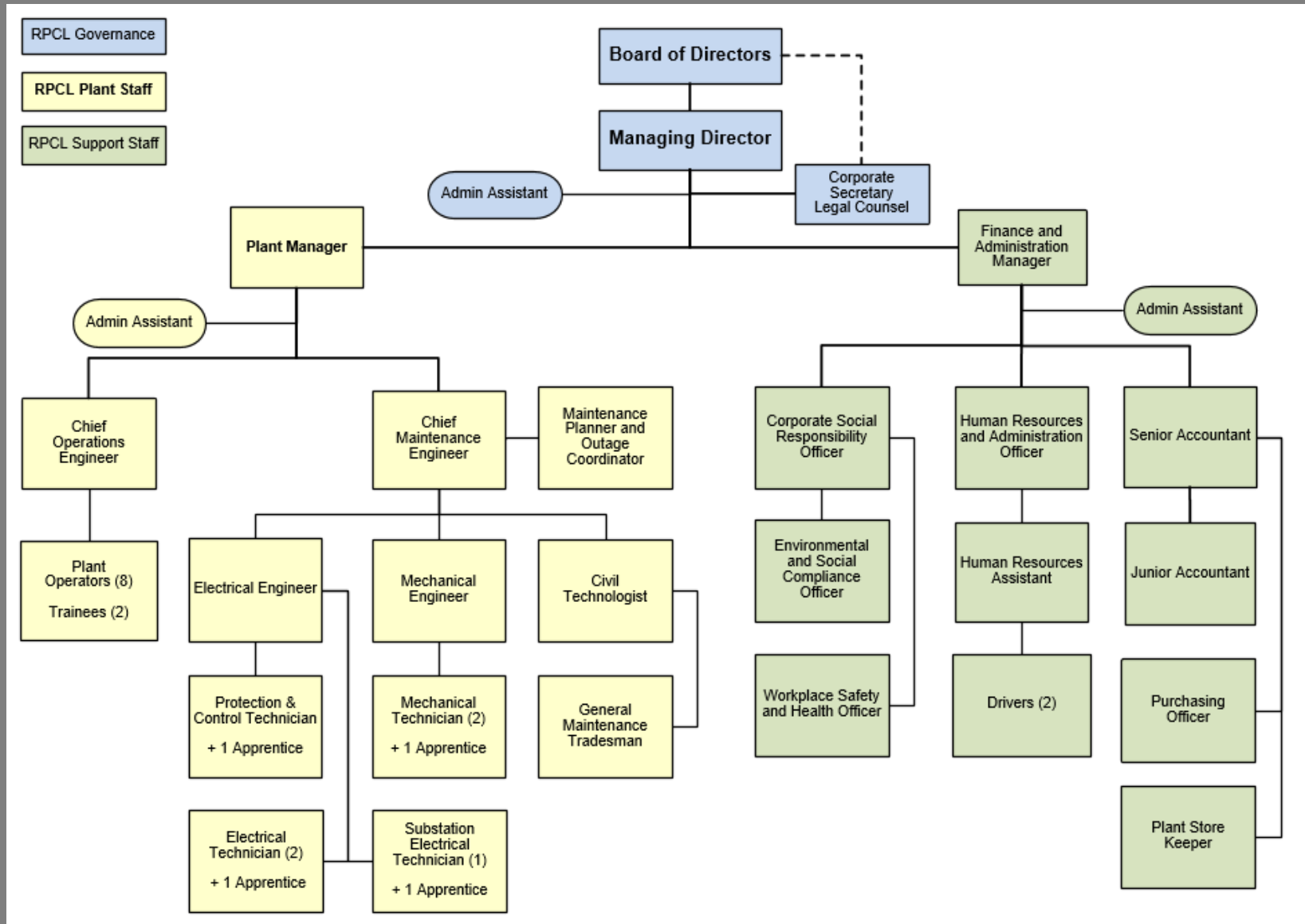


Analysis of Relevant Experience & Best Practices

Project	MW	Countries	O&M Model	O&M Model Assessment
Ruzizi II	44	DRC, Rwanda, Burundi	Internal O&M	Marginally Passed – despite O&M funding issues due to regional conflicts.
Manantali	200	Mali, Mauritania, Senegal	Outsourced O&M	Failed – due to administration of O&M contract.
Muela	72	South Africa, Lesotho	Internal O&M with external support (hybrid)	Passed – despite being first hydro project in the country...skill gaps were bridged with short-term advisors and training.

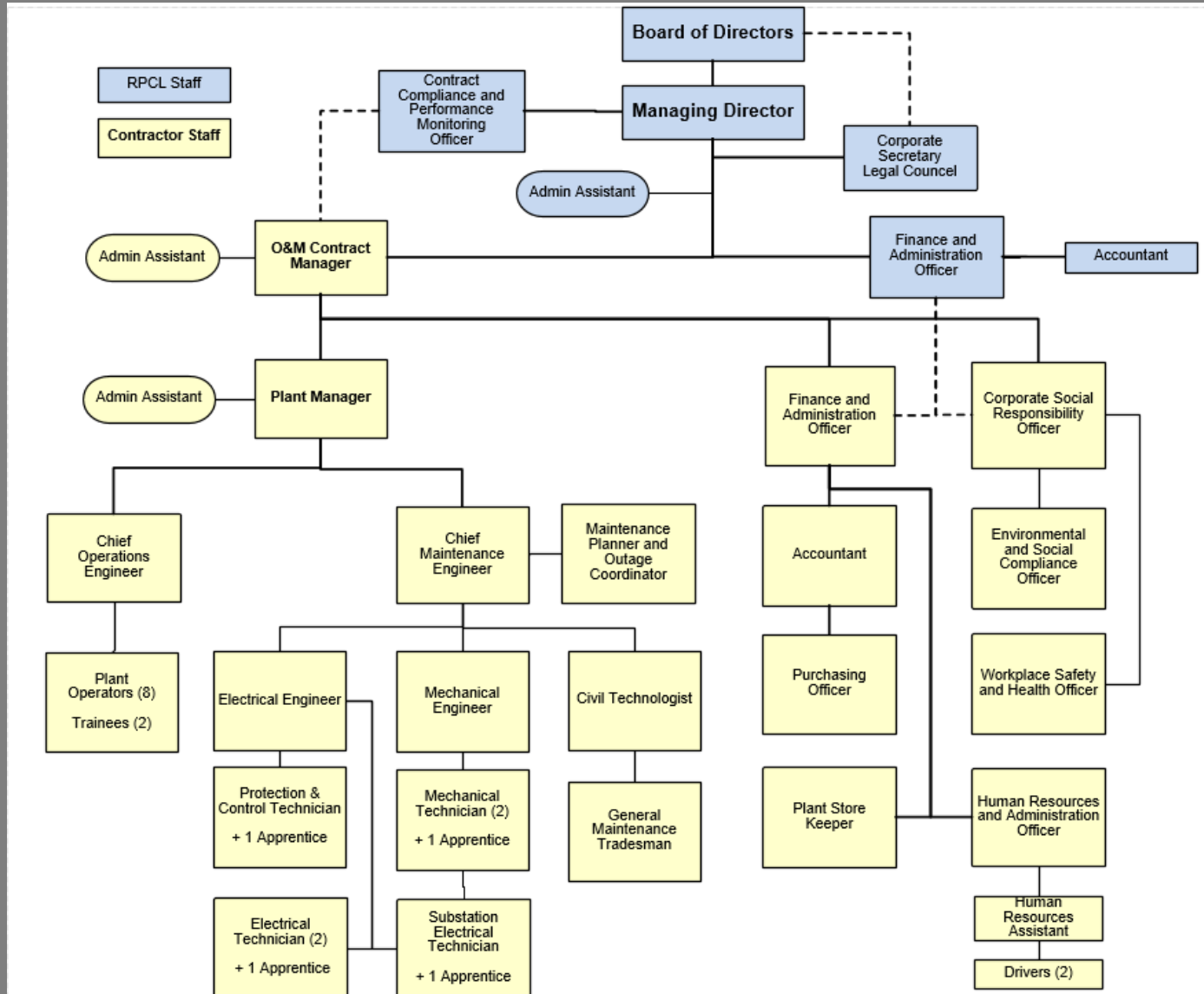


Model 1 – O&M by Owner



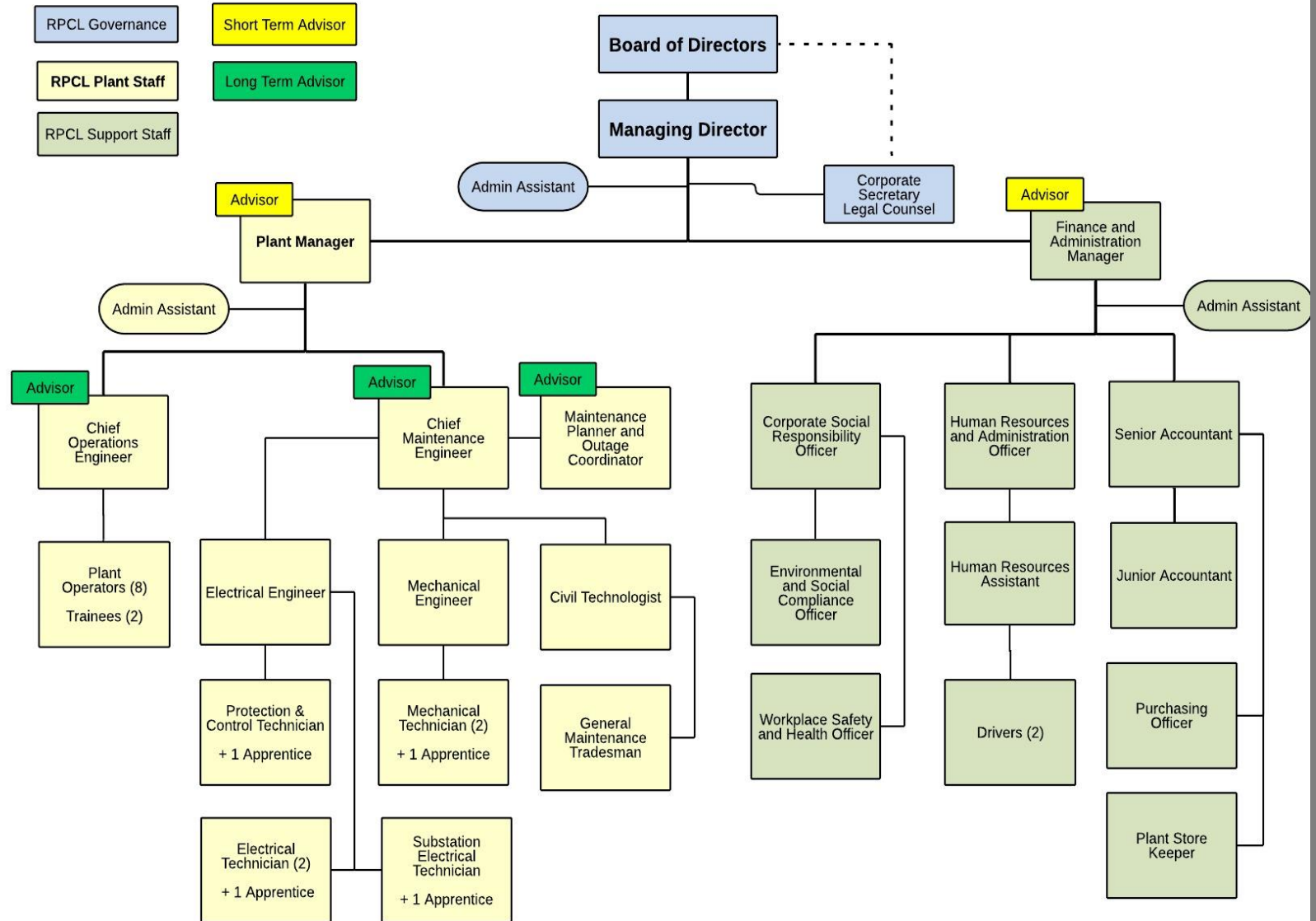


Model 2 – O&M by Private Operator





Model 3 – Hybrid - O&M by Owner with Short Term Advisors





Corporate Governance and Organization Structure

Staffing Numbers

Positions	Model 1 - O&M by Owner		Model 2 - O&M by Private Operator		Model 3 - Hybrid	
	RPCL	Outsourced	RPCL	Outsourced	RPCL	Short Term Advisors
Total Staff	45	0	6	44	45	5
Combined Total	45		50		50	
Totals After Short Term Advisory Services (First 2 Years)	45		50		45	



Task 6 – Cost of Service

Model	Type	O&M Costs - 5 Years – 2019 costs in USD\$– un-escalated					
		Year(s) after COD	1	2	3	4	5
Model 1	Owner Operated		\$2,320,250	\$2,250,250	\$2,175,250	\$2,250,250	\$2,285,250
Model 2	Outsourced O&M		\$5,821,740	\$5,350,740	\$4,551,240	\$4,626,240	\$4,661,240
Model 3	Hybrid O&M		\$3,125,250	\$3,055,250	\$2,175,250	\$2,250,250	\$2,285,250



Cost of Service

Average Tariffs

Contract Year	Average tariff in 2019 Prices (USD/KWh)			
	Model 1 - Owner Operated	Model 2 - Outsourced O&M	Model 3 - Partial Outsource O&M	World Bank (PAD)
Year 1	0.053	0.061	0.055	0.056
Year 2 to 20	0.053	0.058	0.053	0.051
Year 21 to 25	0.027	0.033	0.027	0.034
Year 26 to 29	0.036	0.041	0.036	0.028
Year 30	0.042	0.049	0.042	0.028
Year 31 to 35	0.028	0.034	0.028	0.028
Year 36 to 39	0.033	0.039	0.033	0.028
Year 40	0.038	0.045	0.038	0.028
Year 41 to 45	0.027	0.033	0.027	0.028
Year 46 to 50	0.026	0.031	0.026	0.028



Risk Analysis

The Key O&M Risks for each of the models identified in Task 1 were reinforced through the more detailed mutually supportive S.W.O.T. Analysis and Risk Analysis.

For **Model 1**, a newly assembled workforce with limited experience with the facility could lead to putting the assets and people at risk. Without start up assistance the O&M workforce is likely to experience problems during the initial operations.

For **Model 2**, a procurement failure would result in having to quickly put in place expensive alternative arrangements with suppliers and EPC contractors. Given recent experience the failure of a procurement to attract at least 3 qualified bidders is considered a significant risk. Contractor procurement was a challenge for Mount Coffee, Manantali, and Ruzizi II.

Model 3, however eliminates or reduces the consequences of higher risks identified for Models 1 and 2. Due to the nature and structure of a technical assistance contract there should be little problem attracting qualified resources/company/utility.



Risk Analysis

	Model 1 Owner Operated	Model 2 Outsourced O&M	Model 3 O&M Advisory
Total O&M Costs (50 years -2019 Prices) USD \$	231,980,000	352,910,000	233,870,000

Recommendation on Model Selection

The risk analysis and S.W.O.T. analysis clearly point to a hybrid model of Owner Operated with Technical Assistance, as the model that presents RPCL with the least amount of risk and the ability to be self-sufficient in delivering good quality O&M services following the first two years of assisted operation.