

FAC 8111 ELECTRICAL POWER SOURCE

FY24 SUC:	\$129.02 / KW
Source:	Calculated using R.S. Means CostWorks 2023 Qtr 4 component prices

FAC 8111 ELECTRICAL POWER SOURCE

Release 2023 Qtr 4
Zip Code Prefix 222
Type MR

UM KW
Design Life 45
Average Size 4589.0

SUC \$129.02

Adjusted Occurrences are the occurrences remaining after subtracting Repair/Replacement Overlaps. Overlap reduction removes a repair when it occurs the same year as a replacement.

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Preventive maintenance fuel level meter	5	6.00 Ea.	\$235.08	\$294.28	9.0000	9	9	\$2,648.54	\$2,648.54
Preventive maintenance oil filter	1	18.00 Ea.	\$127.56	\$153.32	45.0000	45	45	\$6,899.43	\$6,899.43
Replace oil filter housing	30	18.00 Ea.	\$1,275.60	\$1,533.21	1.5000	1	1	\$1,533.21	\$1,533.21
Remake flare type joint fuel oil storage: pipe & fittings, copper	10	18.00 M.L.F.	\$396.10	\$495.84	4.5000	4	4	\$1,983.38	\$1,983.38
Install 10' sect. 1/2" type L copper per M.L.F. fuel oil storage	20	3.60 Ea.	\$733.54	\$895.50	2.2500	2	2	\$1,791.01	\$1,791.01
Replace roof mounted exhaust fan, 20,300 CFM exhaust fan	20	6.00 Ea.	\$73,899.06	\$85,817.62	2.2500	2	2	\$171,635.23	\$171,635.23
Repair 500 kva transformer, primary, liquid filled	10	6.00 Ea.	\$15,660.37	\$18,032.20	4.5000	4	4	\$72,128.81	\$72,128.81
Replace transformer 500 KVA, liquid filled	30	6.00 Ea.	\$400,962.00	\$459,292.62	1.5000	1	1	\$459,292.62	\$459,292.62
Replace fuse	25	48.00 Ea.	\$21,930.95	\$25,184.10	1.8000	1	1	\$25,184.10	\$25,184.10
Repair switchboard meter	10	2.00 Ea.	\$2,437.24	\$2,868.25	4.5000	4	4	\$11,472.99	\$11,472.99
Maintenance and inspection generator, diesel, 750 KW	0.08	6.00 Ea.	\$409.54	\$513.09	562.5000	562	562	\$288,357.47	\$288,357.47
Replace diesel generator component, 750 KW	4	6.00 Ea.	\$1,450,562.93	\$1,661,309.85	11.2500	11	11	\$18,274,408.31	\$18,274,408.31
Maintenance and repair transfer switch	5	3.00 Ea.	\$1,070.77	\$1,296.30	9.0000	9	9	\$11,666.66	\$11,666.66
Maintenance and inspection transfer switch	0.5	3.00 Ea.	\$127.03	\$159.15	90.0000	90	90	\$14,323.81	\$14,323.81
Replace transfer switch	18	3.00 Ea.	\$74,842.30	\$85,757.67	2.5000	2	2	\$171,515.33	\$171,515.33
Maintenance and inspection battery, wet	0.02	24.00 Ea.	\$1,016.26	\$1,273.23	2,250.0000	2250	2250	\$2,864,761.34	\$2,864,761.34
Replace battery, wet	10	24.00 Ea.	\$15,626.98	\$17,852.28	4.5000	4	4	\$71,409.12	\$71,409.12
Maintenance and repair battery charger	2	24.00 Ea.	\$7,429.38	\$9,173.99	22.5000	22	22	\$201,827.87	\$201,827.87
Replace battery charger	20	24.00 Ea.	\$25,516.13	\$29,523.91	2.2500	2	2	\$59,047.83	\$59,047.83
Maintenance and inspection patch panel	0.5	6.00 Ea.	\$546.05	\$684.12	90.0000	90	90	\$61,570.99	\$61,570.99
Replace patch panel	15	6.00 Ea.	\$5,318.41	\$6,400.84	3.0000	3	3	\$19,202.51	\$19,202.51
Replace 275 gallon fuel oil storage tank	30	6.00 Ea.	\$15,144.82	\$17,512.69	1.5000	1	1	\$17,512.69	\$17,512.69
Replace remote tank fuel gauge	20	6.00 Ea.	\$38,638.43	\$44,242.69	2.2500	2	2	\$88,485.39	\$88,485.39
Replace starter motor starter, 600 V	18	6.00 Ea.	\$34,854.30	\$40,612.26	2.5000	2	2	\$81,224.53	\$81,224.53
Maintenance and inspection lighting panel, indoor	3	6.00 Ea.	\$254.07	\$318.31	15.0000	15	15	\$4,774.60	\$4,774.60
Replace load center, 100 A	20	6.00 Ea.	\$7,086.18	\$8,643.21	2.2500	2	2	\$17,286.42	\$17,286.42
Replace wireway, 8" x 8"	20	2,600.00 L.F.	\$210,531.68	\$253,443.85	2.2500	2	2	\$506,887.70	\$506,887.70
Repair failed breaker, molded case, 600 V, 3 pole	10	8.00 Ea.	\$2,908.60	\$3,471.91	4.5000	4	4	\$13,887.65	\$13,887.65
Maintenance and inspection circuit breaker, molded case, 600 V, 3 pole	0.33	8.00 Ea.	\$273.03	\$342.06	136.3636	136	136	\$46,520.30	\$46,520.30
Replace safety switch, heavy duty 600 A	25	12.00 Ea.	\$86,387.65	\$100,318.97	1.8000	1	1	\$100,318.97	\$100,318.97
Repair 4-pin receptacle cover	10	18.00 Ea.	\$1,092.68	\$1,351.67	4.5000	4	4	\$5,406.69	\$5,406.69
Replace 4-pin receptacle	20	18.00 Ea.	\$2,752.67	\$3,273.68	2.2500	2	2	\$6,547.35	\$6,547.35

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Maintenance and repair contactors and relays	3	54.00 Ea.	\$14,112.63	\$17,432.53	15.0000	15	15	\$261,487.93	\$261,487.93
Replace contactor and relays	18	54.00 Ea.	\$50,353.69	\$59,171.19	2.5000	2	2	\$118,342.37	\$118,342.37
Maintenance and repair of general wiring lightning protection system	1	3.60 M.L.F.	\$394.20	\$485.59	45.0000	45	45	\$21,851.65	\$21,851.65
Maintenance and repair lightning ground rod	1	6.00 Ea.	\$553.70	\$691.93	45.0000	45	44	\$31,136.82	\$30,444.89
Replace lightning ground rod	25	6.00 Ea.	\$1,473.63	\$1,822.03	1.8000	1	1	\$1,822.03	\$1,822.03
Maintenance and repair special ground system	4	6.00 Ea.	\$136.13	\$170.56	11.2500	11	11	\$1,876.11	\$1,876.11
Maintenance and inspection inverter	0.25	12.00 Ea.	\$1,638.15	\$2,052.37	180.0000	180	180	\$369,425.94	\$369,425.94
Replace 1 KVA inverter	20	12.00 Ea.	\$46,597.28	\$53,201.48	2.2500	2	2	\$106,402.96	\$106,402.96
Maintenance and repair rectifier, up to 600 V	2	2.00 Ea.	\$1,341.86	\$1,604.06	22.5000	22	20	\$35,289.33	\$32,081.21
Maintenance and inspection rectifier, up to 600 V	0.33	2.00 Ea.	\$273.03	\$342.06	136.3636	136	136	\$46,520.30	\$46,520.30
Replace rectifier, up to 600 V	20	2.00 Ea.	\$2,382.70	\$2,749.29	2.2500	2	2	\$5,498.58	\$5,498.58
Maintenance and repair motor starter, 600 V	3	6.00 Ea.	\$4,207.01	\$5,178.25	15.0000	15	15	\$77,673.80	\$77,673.80
Maintenance and repair inverter	1	12.00 Ea.	\$9,526.40	\$11,417.39	45.0000	45	45	\$513,782.38	\$513,782.38
			\$2,633,037.79	\$3,038,361.41				MR Subtotal	\$25,268,723.03
								MR Per Year	\$561,527.18
								PM Total	\$30,551.00
								Subtotal	\$592,078.18
								Total Per Unit	\$129.02

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Release 2023 Qtr 4

UM KW

Zip Code Prefix 222

Design Life 45

Type PM

Average Size 4589.0

SUC \$129.02

Description	Qty	Labor Hours	Bare Mat	Bare Labor	Bare Equip	Bare Total	Total In-House	Total Incl OP
Circuit breaker, high voltage oil, annualized	18.00	15.39	\$268.32	\$1,067.09	\$0.00	\$1,335.41	\$1,682.37	\$2,042.74
Switch, selector, high voltage, oil, annualized	6.00	2.70	\$89.44	\$188.67	\$0.00	\$278.11	\$343.66	\$413.68
Switch, automatic transfer, annualized	6.00	31.90	\$82.98	\$2,226.96	\$0.00	\$2,309.94	\$2,986.32	\$3,666.86
Transformer, oil pad mounted, PCB, annualized	6.00	16.11	\$15.19	\$1,119.67	\$0.00	\$1,134.86	\$1,472.28	\$1,810.46
Panelboard, 225 A and above, annually	6.00	2.65	\$132.01	\$182.49	\$0.00	\$314.49	\$382.44	\$456.99
Motor control center, over 400 A, annualized	6.00	2.33	\$132.01	\$160.84	\$0.00	\$292.84	\$354.29	\$422.35
Emergency diesel or gas generator, over 15 KVA, annualized	6.00	96.90	\$498.39	\$6,124.14	\$0.00	\$6,622.53	\$8,509.61	\$10,421.61
Power stablizer, annualized	6.00	3.75	\$54.96	\$238.16	\$0.00	\$293.12	\$370.06	\$449.75
Battery system and charger, annualized	12.00	104.78	\$220.91	\$6,619.02	\$0.00	\$6,839.93	\$8,847.72	\$10,866.57
						\$19,421.23	\$24,948.76	\$30,551.00

FAC 8111 ELECTRICAL POWER SOURCE
Modeled Component List
CostWorks Release 2023 Qtr 4

D30 HVAC

Exhaust Fan, roof mounted exhaust fan, 20300 CFM exhaust	6.0 Ea.
Fuel Oil Storage Tank, 275 Gallon	6.0 Ea.

D50 Electrical

Generator, Diesel, 750 KW	6.0 Ea.
Transfer Switch	3.0 Ea.
Battery Charger	24.0 Ea.
Motor Starter, 600 V	6.0 Ea.
Load Center, 100 A, maintenance & inspection	6.0 Ea.
Load Center, 100 A, replacement	6.0 Ea.
Lightning Ground Rod	6.0 Ea.
Inverter	12.0 Ea.
Rectifier, Up To 600 V	2.0 Ea.

FAC 8111 ELECTRICAL POWER SOURCE
Sustainment by Year
CostWorks Release 2023 Qtr 4

