

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
50	Gas side - perform cleaning of the boiler and bottom ash system.	20 days							
51	Drain boiler, drum, downcomers and headers.	1 day							
52	Open drum doors.	1 day							
53	Drain and clean the submerged flight conveyor system.	5 days							
54	Ductwork	12 days							
55	Open ductwork doors.	1 day							
56	Perform extensive cleaning of the ductwork.	10 days							
57	Install Flue Cap on L1 Stack Flue	1 day							
58	Condensate and Feedwater Piping	2 days							
59	Drain water from the system.	1 day							
60	Leave open vents and drains.	1 day							
61	Feedwater heaters	3 days							
62	Drain feedwater heaters	1 day							
63	Leave open vents and drains.	2 days							
64	Deaerator and Deaerator Storage Tank	2 days							
65	Drain Deaerator and Storage	1 day							
66	Leave open vents and drains.	1 day							
67	Baghouse	16 days							

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
68	Multiple cleaning cycles for filter bags.	3 days							
69	Open all vent and drain lines on bag cleaning air and control air lines. Leave in open position or remove vent valves.	1 day							
70	Remove all filter bags and cages.	1 day							
71	Clear hoppers of all ash	4 days							
72	Mechanically secure all compartment dampers and hopper outlet valves in open position.	1 day							
73	Disconnect ash transport piping and washdown baghouse hoppers and interior of casing.	1 day							
74	Install bird screens across hopper ash outlet and ash line flanges.	1 day							
75	Padlock or tack weld all hopper doors shut. (note: if ash hopper doors are indoors, they could be removed and the opening covered with bird screens.)	1 day							
76	If walk-in plenum, padlock or tack weld all outlet plenum doors and compartment ventilation dampers shut.	1 day							
77	If top-door plenum, close and secure top doors and remove/disable door lift hoist.	2 days							
78	If top-door plenum, establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in penthouse enclosure.	1 day							
79	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days							
80	Wet FGD system	19 days							
81	Multiple mist eliminator wash cycles. Remove ME's from absorber.	3 days							
82	Drain and flush all slurry and reclaim water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	2 days							
83	Drain and wash out the reaction tank, reagent storage tank, recycle water tank, absorber blowdown tank, etc.	3 days							

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
84	Leave all tank drain valves open or remove. Install bird screens across openings.	2 days							
85	Drain all makeup and mist eliminator water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	2 days							
86	Mechanically secure all flue gas isolation dampers in open position or remove damper blades.	2 days							
87	Remove solids from all inlet and outlet ductwork as necessary	2 days							
88	Open all vent station air and control air lines. Leave in open position or remove vent valves	2 days							
89	Padlock or tack weld all access doors to modules and ductwork shut.	2 days							
90	Remove access doors to open-top tanks.	1 day							
91	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days							
92	FGD Reagent Preparation-Limestone wet Scrubber	14 days							
93	Remove limestone from day bins.	2 days							
94	Removed cartridges/bags from bin vent filters	2 days							
95	Padlock or tack weld all bin access doors shut. (note: if doors are indoors, they could be removed and the opening covered with bird screens.)	1 day							
96	Remove bin discharge isolation valve and install bird screen.	1 day							
97	Thoroughly wash and drain mills	2 days							
98	Remove balls from any ball mills	2 days							
99	Padlock or tack weld mill access doors closed.	1 day							

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
100	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	1 day							
101	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	2 days							
102	FGD Byproduct Dewatering - Hydrocyclones and Vacuum Filters	5 days							
103	Wash vacuum filter belt and remove all accumulated solids	2 days							
104	Wash out vacuum receiver, remove pressure relief valve and access door. Install bird screens.	1 day							
105	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	1 day							
106	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days							
107	SCR	6 days							
108	Vacuum fly ash from catalyst.	4 days							
109	Remove catalyst of salvage or disposal.	4 days							
110	Padlock or tack weld access doors shut.	1 day							
111	Remove ammonia from storage tank for resale.	1 day							
112	Wash out and drain storage tank and supply piping.	1 day							
113	Vent storage tank and all piping. Leave vent and drain valves open or remove. Install bird screens.	1 day							
114	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	2 days							
115	Turbine(s) and Condenser	6 days							

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
116	Drain hotwell and leave doors open.	1 day			▼				
117	Open main turbine doors.	1 day			▼				
118	Open bfp turbine doors.	1 day			▼				
119	Remove lube oil.	3 days			▼				
120	Generator	7 days			▼				
121	Verify that generator circuit breaker is open and racked out or that high-voltage disconnect switch on substation side of GSU transformer is locked in the open position.	0.5 days			▼				
122	Verify that generator field breaker or contactor (if applicable) is open.	0.5 days			▼				
123	De-energize power supplies to generator excitation system at the source.	0.5 days			▼				
124	De-energize AC and DC power supplies to generator and exciter space heaters, cooling equipment, controls, lighting, etc. at the source and open circuit breakers or remove fuses at the generator and exciter.	0.5 days			▼				
125	Drain generator and exciter cooling water systems (if applicable).	1 day			▼				
126	Disconnect and remove hydrogen gas tanks and purge generator hydrogen system.	2 days			▼				
127	Disconnect and remove fire protection system gas/foam tanks and purge fire protection system.	2 days			▼				
128	Circulation Water and Turbine Cooling Water System	3 days			▼				
129	Drain.	2 days			▼				
130	Open water box doors.	1 day			▼				
131	Drain any circulating water chemical feed tanks.	1 day			▼				

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
132	Compressed Air System	1 day			▼				
133	Open vents and drains.	1 day			▼				
134	Auxiliary Steam System	1 day			▼				
135	Drain water from system.	1 day			▼				
136	Auxiliary Cooling Water System	1 day			▼				
137	Drain water from system.	1 day			▼				
138	Condenser Air Extraction and Waterbox Priming System	1 day			▼				
139	Drain water from system.	1 day			▼				
140	Building Heating System	1 day			▼				
141	Drain water from system.	1 day			▼				
142	Battery System	7 days			▼				
143	De-energize all battery chargers from the source.	0.5 days			▼				
144	Open all AC and DC circuit breakers and/or fused switches on battery chargers and disconnect cables from batteries.	0.5 days			▼				
145	Remove and dispose of battery electrolyte.	3 days			▼				
146	Remove and dispose of battery cells.	2 days			▼				
147	Clean up and dispose of electrolyte on surface areas around batteries.	1 day			▼				
148	Post Retirement Activities	40 days			▼				
149	Post Retirement Activities	40 days			▼				

La Cygne 1 Dismantlement

Owner Additional Costs

Pre-Dismantlement Activities		\$1,132,525	
Overhead During Dismantlement		\$2,055,627	
Post-Dismantlement Activities		\$71,270	
Owner Costs Total			\$3,259,423

Demolition General Contractor (DGC) Costs

Site Management		\$1,370,880	
Equipment Rental		\$2,349,343	
Consumables		\$2,567,178	
Scrap Crew(s)		\$2,287,460	
Dismantlement*		\$12,280,391	
DGC Insurance	2.00%	\$417,105	
Contingency/Profit	15.00%	\$3,190,854	
Performance Bond	2.00%	\$489,264.23	
Contractor Costs Total:			\$24,952,476

Total:			\$28,211,898
Owner Internal Costs:	5.00%		\$1,410,595
Owner Contingency:	25.00%		\$7,405,623
La Cygne Unit 1 Dismantlement Opinion of Probable Cost:			\$37,028,117

UNIT 2

La Cygne 2 Retirement

Owner Costs

Pre-Retirement Activities	\$106,968
Retirement Activities	\$675,822
Post-Retirement Activities	\$28,182

Owner Direct Total \$810,972

Owner Internal Costs 5.00% \$40,549

Owner Contingency: 25.00% \$212,880

La Cygne 2 Retirement Opinion of Probable Cost: \$1,064,401

Activities Required by Permit or Regulation

La Cygne Station Asbestos Removal \$2,674,758

Activities Required by Permit or Regulation: \$2,674,758

La Cygne 2 Retirement

ID	Task Name	Cost
0	La Cygne 2 Retirement	\$810,972.05
1	LaCygne 2 Retirement	\$810,972.05
2	Pre-Engineering	\$106,967.52
3	Permit review and engineering analysis, establish isolation points, and confirm fuel yard inventory has been reduced to zero tons.	\$0.00
4	KCL&L Overhead Costs	\$109,108.48
5	KCP&L Retirement Manager	\$109,108.48
6	Equipment Rentals	\$36,573.12
7	Vacuum truck	\$36,573.12
8	Retirement	\$530,140.53
9	Electrical	\$20,553.92
10	Medium and Low Voltage Draw out Switchgear	\$2,903.52
11	De-energize all buses at the source.	\$483.92
12	Open all circuit breakers.	\$483.92
13	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$483.92
14	Verify that the closing/tripping springs are discharged.	\$483.92
15	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	\$967.84
16	Motor Control Centers	\$1,935.68
17	De-energize all buses at the source.	\$483.92
18	Open all circuit breakers and disconnect switches.	\$483.92
19	Remove all fuses in control circuits.	\$967.84
20	Low-voltage Switchboards and Panelboards	\$967.84
21	De-energize all buses at the source.	\$483.92
22	Open all circuit breakers and disconnect switches.	\$483.92
23	Oil-Filled Power Transformers	\$6,072.32
24	De-energize all transformer primaries and verify that the secondary is de-energized.	\$967.84
25	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	\$967.84
26	Drain and dispose of oil.	\$2,867.52
27	Clean up and dispose of oil on surface areas around the transformers on in containment pits.	\$1,269.12
28	Dry-type Power Transformers	\$1,935.68
29	De-energize all transformer primaries and verify that the secondary is de-energized.	\$967.84
30	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	\$967.84
31	Motors	\$6,738.88
32	De-energize all primary power at the source.	\$1,935.68

La Cygne 2 Retirement

ID	Task Name	Cost
33	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	\$1,935.68
34	Drain lube oil system (if applicable) and dispose of oil.	\$2,867.52
35	Coal Handling	\$30,905.36
36	Empty all transfer hoppers.	\$1,853.84
37	Burn out coal silos.	\$1,834.56
38	Confirm all fuel lines, conveyors and trippers are clear of fuel.	\$1,834.56
39	Perform cleaning of the coal handling equipment to assure that all coal and coal dust has been removed from site.	\$25,382.40
40	Fuel Oil and Igniter System	\$2,751.84
41	Drain fuel oil system	\$2,751.84
42	Waste Oil System	\$1,834.56
43	Drain all waste oil systems	\$1,834.56
44	Boiler Chemical Feed	\$1,834.56
45	Drain all chemical feed tanks.	\$1,834.56
46	Boiler	\$30,927.60
47	Open boiler doors.	\$955.84
48	Gas side - perform cleaning of the boiler and bottom ash system.	\$25,382.40
49	Drain boiler, drum, downcomers and headers.	\$917.28
50	Open drum doors.	\$955.84
51	Drain and clean the submerged flight conveyor system.	\$2,716.24
52	Stack and Ductwork	\$344,145.25
53	Open ductwork doors.	\$955.84
54	Perform extensive cleaning of the ductwork.	\$12,691.20
55	Install Flue Cap on L2 Flue	\$330,498.21
56	Condensate and Feedwater Piping	\$1,834.56
57	Drain water from the system.	\$917.28
58	Leave open vents and drains.	\$917.28
59	Feedwater heaters	\$2,751.84
60	Drain feedwater heaters	\$917.28
61	Leave open vents and drains.	\$1,834.56
62	Deaerator and Deaerator Storage Tank	\$1,834.56
63	Drain Deaerator and Storage	\$917.28
64	Leave open vents and drains.	\$917.28
65	Baghouse	\$18,919.84
66	Multiple cleaning cycles for filter bags.	\$2,751.84
67	Open all vent and drain lines on bag cleaning air and control air lines. Leave in open position or remove vent valves.	\$917.28
68	Remove all filter bags and cages.	\$955.84
69	Clear hoppers of all ash	\$3,103.68
70	Mechanically secure all compartment dampers and hopper outlet valves in open position.	\$955.84
71	Disconnect ash transport piping and washdown baghouse hoppers and interior of casing.	\$1,571.12

La Cygne 2 Retirement

ID	Task Name	Cost
72	Install bird screens across hopper ash outlet and ash line flanges.	\$955.84
73	Padlock or tack weld all hopper doors shut. (note: if ash hopper doors are indoors, they could be removed and the opening covered with bird screens.)	\$955.84
74	If walk-in plenum, padlock or tack weld all outlet plenum doors and compartment ventilation dampers shut.	\$955.84
75	If top-door plenum, close and secure top doors and remove/disable door lift hoist.	\$1,873.12
76	If top-door plenum, establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in penthouse enclosure.	\$1,020.08
77	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$2,903.52
78	Wet FGD system	\$26,222.88
79	Multiple mist eliminator wash cycles. Remove ME's from absorber.	\$2,331.76
80	Drain and flush all slurry and reclaim water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	\$1,873.12
81	Drain and wash out the reaction tank, reagent storage tank, recycle water tank, absorber blowdown tank, etc.	\$5,183.28
82	Leave all tank drain valves open or remove. Install bird screens across openings.	\$1,911.68
83	Drain all makeup and mist eliminator water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	\$2,828.96
84	Mechanically secure all flue gas isolation dampers in open position or remove damper blades.	\$1,911.68
85	Remove solids from all inlet and outlet ductwork as necessary	\$2,538.24
86	Open all vent station air and control air lines. Leave in open position or remove vent valves	\$1,873.12
87	Padlock or tack weld all access doors to modules and ductwork shut.	\$1,911.68
88	Remove access doors to open-top tanks.	\$955.84
89	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$2,903.52
90	FGD Reagent Preparation-Limestone wet Scrubber	\$11,270.00
91	Remove limestone from day bins.	\$1,551.84
92	Removed cartridges/bags from bin vent filters	\$1,551.84
93	Padlock or tack weld all bin access doors shut. (note: if doors are indoors, they could be removed and the opening covered with bird screens.)	\$955.84
94	Remove bin discharge isolation valve and install bird screen.	\$477.92

La Cygne 2 Retirement

ID	Task Name	Cost
95	Thoroughly wash and drain mills	\$1,551.84
96	Remove balls from any ball mills	\$1,269.12
97	Padlock or tack weld mill access doors closed.	\$955.84
98	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	\$1,020.08
99	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$1,935.68
100	FGD Byproduct Dewatering - Hydrocyclones and Vacuum Filters	\$8,032.96
101	Wash vacuum filter belt and remove all accumulated solids	\$2,538.24
102	Wash out vacuum receiver, remove pressure relief valve and access door. Install bird screens.	\$1,571.12
103	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	\$1,020.08
104	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$2,903.52
105	Turbine(s) and Condenser	\$5,715.76
106	Drain hotwell and leave doors open.	\$936.56
107	Open main turbine doors.	\$955.84
108	Open bfp turbine doors.	\$955.84
109	Remove lube oil.	\$2,867.52
110	Generator	\$6,618.48
111	Verify that generator circuit breaker is open and racked out or that high-voltage disconnect switch on substation side of GSU transformer is locked in the open position.	\$483.92
112	Verify that generator field breaker or contactor (if applicable) is open.	\$483.92
113	De-energize power supplies to generator excitation system at the source.	\$483.92
114	De-energize AC and DC power supplies to generator and exciter space heaters, cooling equipment, controls, lighting, etc. at the source and open circuit breakers or remove fuses at the generator and exciter.	\$483.92
115	Drain generator and exciter cooling water systems (if applicable).	\$936.56
116	Disconnect and remove hydrogen gas tanks and purge generator hydrogen system.	\$1,834.56
117	Disconnect and remove fire protection system gas/foam tanks and purge fire protection system.	\$1,911.68
118	Circulation Water and Turbine Cooling Water System	\$3,707.68
119	Drain.	\$1,834.56
120	Open water box doors.	\$955.84
121	Drain any circulating water chemical feed tanks.	\$917.28
122	Compressed Air System	\$917.28
123	Open vents and drains.	\$917.28

La Cygne 2 Retirement

ID	Task Name	Cost
124	Auxiliary Steam System	\$1,834.56
125	Drain water from system.	\$917.28
126	Remove aux boiler chemicals.	\$917.28
127	Auxiliary Cooling Water System	\$917.28
128	Drain water from system.	\$917.28
129	Condenser Air Extraction and Waterbox Priming System	\$917.28
130	Drain water from system.	\$917.28
131	Building Heating System	\$917.28
132	Drain water from system.	\$917.28
133	Battery System	\$4,775.20
134	De-energize all battery chargers from the source.	\$483.92
135	Open all AC and DC circuit breakers and/or fused switches on battery chargers and disconnect cables from batteries.	\$483.92
136	Remove and dispose of battery electrolyte.	\$1,903.68
137	Remove and dispose of battery cells.	\$1,269.12
138	Clean up and dispose of electrolyte on surface areas around batteries.	\$634.56
139	Post Retirement Activities	\$28,182.40
140	Post Retirement Activities	\$28,182.40

ID	Task Name	Duration	4th Qua	1st Qua	2nd Qua	3rd Qua	4th Qua	1st Qua	2nd Qua
0	La Cygne 2 Retirement	232 days							
1	LaCygne 2 Retirement	232 days							
2	Pre-Engineering	66 days							
3	Permit review and engineering analysis, establish isolation points, and confirm fuel yard inventory has been reduced to zero tons.	66 days							
4	KCL&L Overhead Costs	166 days							
5	KCP&L Retirement Manager	166 days							
6	Equipment Rentals	166 days							
7	Vacuum truck	166 days							
8	Retirement	166 days							
9	Electrical	22 days							
10	Medium and Low Voltage Draw out Switchgear	3 days							
11	De-energize all buses at the source.	0.5 days							
12	Open all circuit breakers.	0.5 days							
13	Rack all circuit breakers into the fully withdrawn, disconnected position.	0.5 days							
14	Verify that the closing/tripping springs are discharged.	0.5 days							
15	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	1 day							
16	Motor Control Centers	2 days							

ID	Task Name	Duration	4th Qual	1st Qual	2nd Qual	3rd Qual	4th Qual	1st Qual	2nd Qual
17	De-energize all buses at the source.	0.5 days				▼			
18	Open all circuit breakers and disconnect switches.	0.5 days				▼			
19	Remove all fuses in control circuits.	1 day				▼			
20	Low-voltage Switchboards and Panelboards	1 day				▼			
21	De-energize all buses at the source.	0.5 days				▼			
22	Open all circuit breakers and disconnect switches.	0.5 days				▼			
23	Oil-Filled Power Transformers	7 days				▼			
24	De-energize all transformer primaries and verify that the secondary is de-energized.	1 day				▼			
25	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	1 day				▼			
26	Drain and dispose of oil.	3 days				▼			
27	Clean up and dispose of oil on surface areas around the transformers on in containment pits.	2 days				▼			
28	Dry-type Power Transformers	2 days				▼			
29	De-energize all transformer primaries and verify that the secondary is de-energized.	1 day				▼			
30	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	1 day				▼			
31	Motors	7 days				▼			
32	De-energize all primary power at the source.	2 days				▼			
33	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	2 days				▼			

ID	Task Name	Duration	4th Qual	1st Qual	2nd Qual	3rd Qual	4th Qual	1st Qual	2nd Qual
34	Drain lube oil system (if applicable) and dispose of oil.	3 days							
35	Coal Handling	25 days							
36	Empty all transfer hoppers.	1 day							
37	Burn out coal silos.	2 days							
38	Confirm all fuel lines, conveyors and trippers are clear of fuel.	2 days							
39	Perform cleaning of the coal handling equipment to assure that all coal and coal dust has been removed from site.	20 days							
40	Fuel Oil and Igniter System	3 days							
41	Drain fuel oil system	3 days							
42	Waste Oil System	2 days							
43	Drain all waste oil systems	2 days							
44	Boiler Chemical Feed	2 days							
45	Drain all chemical feed tanks.	2 days							
46	Boiler	27 days							
47	Open boiler doors.	1 day							
48	Gas side - perform cleaning of the boiler and bottom ash system.	20 days							
49	Drain boiler, drum, downcomers and headers.	1 day							
50	Open drum doors.	1 day							
51	Drain and clean the submerged flight conveyor system.	5 days							

ID	Task Name	Duration	4th Qual	1st Qual	2nd Qual	3rd Qual	4th Qual	1st Qual	2nd Qual
52	Stack and Ductwork	12 days							
53	Open ductwork doors.	1 day							
54	Perform extensive cleaning of the ductwork.	10 days							
55	Install Flue Cap on L2 Flue	1 day							
56	Condensate and Feedwater Piping	2 days							
57	Drain water from the system.	1 day							
58	Leave open vents and drains.	1 day							
59	Feedwater heaters	3 days							
60	Drain feedwater heaters	1 day							
61	Leave open vents and drains.	2 days							
62	Deaerator and Deaerator Storage Tank	2 days							
63	Drain Deaerator and Storage	1 day							
64	Leave open vents and drains.	1 day							
65	Baghouse	16 days							
66	Multiple cleaning cycles for filter bags.	3 days							
67	Open all vent and drain lines on bag cleaning air and control air lines. Leave in open position or remove vent valves.	1 day							
68	Remove all filter bags and cages.	1 day							
69	Clear hoppers of all ash	4 days							

ID	Task Name	Duration	4th Quar	1st Quar	2nd Quar	3rd Quar	4th Quar	1st Quar	2nd Quar
70	Mechanically secure all compartment dampers and hopper outlet valves in open position.	1 day			▲				
71	Disconnect ash transport piping and washdown baghouse hoppers and interior of casing.	1 day			▲				
72	Install bird screens across hopper ash outlet and ash line flanges.	1 day			▲				
73	Padlock or tack weld all hopper doors shut. (note: if ash hopper doors are indoors, they could be removed and the opening covered with bird screens.)	1 day			▲				
74	If walk-in plenum, padlock or tack weld all outlet plenum doors and compartment ventilation dampers shut.	1 day			▲				
75	If top-door plenum, close and secure top doors and remove/disable door lift hoist.	2 days			▲				
76	If top-door plenum, establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in penthouse enclosure.	1 day			▲				
77	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days			▲				
78	Wet FGD system	19 days			▲				
79	Multiple mist eliminator wash cycles. Remove ME's from absorber.	3 days			▲				
80	Drain and flush all slurry and reclaim water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	2 days			▲				
81	Drain and wash out the reaction tank, reagent storage tank, recycle water tank, absorber blowdown tank, etc.	3 days			▲				
82	Leave all tank drain valves open or remove. Install bird screens across openings.	2 days			▲				
83	Drain all makeup and mist eliminator water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	2 days			▲				
84	Mechanically secure all flue gas isolation dampers in open position or remove damper blades.	2 days			▲				
85	Remove solids from all inlet and outlet ductwork as necessary	2 days			▲				

ID	Task Name	Duration	4th Quar	1st Quar	2nd Quar	3rd Quar	4th Quar	1st Qual	2nd Qual
86	Open all vent station air and control air lines. Leave in open position or remove vent valves	2 days			▲				
87	Padlock or tack weld all access doors to modules and ductwork shut.	2 days			▲				
88	Remove access doors to open-top tanks.	1 day			▲				
89	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days			▲				
90	FGD Reagent Preparation-Limestone wet Scrubber	14 days			▼				
91	Remove limestone from day bins.	2 days			▲				
92	Removed cartridges/bags from bin vent filters	2 days			▲				
93	Padlock or tack weld all bin access doors shut. (note: if doors are indoors, they could be removed and the opening covered with bird screens.)	1 day			▲				
94	Remove bin discharge isolation valve and install bird screen.	1 day			▲				
95	Thoroughly wash and drain mills	2 days			▲				
96	Remove balls from any ball mills	2 days			▲				
97	Padlock or tack weld mill access doors closed.	1 day			▲				
98	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	1 day			▼				
99	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	2 days			▲				
100	FGD Byproduct Dewatering - Hydrocyclones and Vacuum Filters	11 days			▼				
101	Wash vacuum filter belt and remove all accumulated solids	2 days			▲				
102	Wash out vacuum receiver, remove pressure relief valve and access door. Install bird screens.	1 day			▲				

ID	Task Name	Duration	4th Qua	1st Qua	2nd Qua	3rd Qua	4th Qua	1st Qua	2nd Qua
103	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	1 day							
104	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days							
105	Turbine(s) and Condenser	6 days							
106	Drain hotwell and leave doors open.	1 day							
107	Open main turbine doors.	1 day							
108	Open bfp turbine doors.	1 day							
109	Remove lube oil.	3 days							
110	Generator	7 days							
111	Verify that generator circuit breaker is open and racked out or that high-voltage disconnect switch on substation side of GSU transformer is locked in the open position.	0.5 days							
112	Verify that generator field breaker or contactor (if applicable) is open.	0.5 days							
113	De-energize power supplies to generator excitation system at the source.	0.5 days							
114	De-energize AC and DC power supplies to generator and exciter space heaters, cooling equipment, controls, lighting, etc. at the source and open circuit breakers or remove fuses at the generator and exciter.	0.5 days							
115	Drain generator and exciter cooling water systems (if applicable).	1 day							
116	Disconnect and remove hydrogen gas tanks and purge generator hydrogen system.	2 days							
117	Disconnect and remove fire protection system gas/foam tanks and purge fire protection system.	2 days							
118	Circulation Water and Turbine Cooling Water System	3 days							
119	Drain.	2 days							

ID	Task Name	Duration	4th Qual	1st Qual	2nd Qual	3rd Qual	4th Qual	1st Qual	2nd Qual
120	Open water box doors.	1 day							
121	Drain any circulating water chemical feed tanks.	1 day							
122	Compressed Air System	1 day							
123	Open vents and drains.	1 day							
124	Auxiliary Steam System	2 days							
125	Drain water from system.	1 day							
126	Remove aux boiler chemicals.	1 day							
127	Auxiliary Cooling Water System	1 day							
128	Drain water from system.	1 day							
129	Condenser Air Extraction and Waterbox Priming System	1 day							
130	Drain water from system.	1 day							
131	Building Heating System	1 day							
132	Drain water from system.	1 day							
133	Battery System	7 days							
134	De-energize all battery chargers from the source.	0.5 days							
135	Open all AC and DC circuit breakers and/or fused switches on battery chargers and disconnect cables from batteries.	0.5 days							
136	Remove and dispose of battery electrolyte.	3 days							
137	Remove and dispose of battery cells.	2 days							

ID	Task Name	Duration	4th Qual	1st Quar	2nd Qua	3rd Qual	4th Qual	1st Qual	2nd Qua
138	Clean up and dispose of electrolyte on surface areas around batteries.	1 day							
139	Post Retirement Activities	40 days							
140	Post Retirement Activities	40 days							

La Cygne 2 Dismantlement

Owner Costs

Pre-Dismantlement Activities	\$1,104,559
Overhead During Dismantlement	\$2,004,866
Post-Dismantlement Activities	\$69,510

Owner Costs Total \$3,178,936

Demolition General Contractor (DGC) Costs

Site Management	\$1,336,369
Equipment Rental	\$2,943,884
Consumables	\$2,937,002
Scrap Crew(s)	\$2,229,828
Dismantlement	\$12,970,149

DGC Insurance 2.00% \$448,345

Contingency/Profit 15.00% \$3,429,837

Performance Bond 2.00% \$525,908

Contractor Costs Total: \$26,821,322

Total: \$30,000,257

Owner Internal Costs: 5.00% \$1,500,013

Owner Contingency: 25.00% \$7,875,068

La Cygne Unit 2 Dismantlement Opinion of Probable Cost: \$39,375,338

La Cygne Unit 2 Dismantlement

ID	Task Name	Cost
0	La Cygne Unit 2 Dismantlement	\$20,835,940.37
1	La Cygne Unit 2 Dismantlement	\$20,766,429.97
2	Pre-Dismantlement Activities	\$1,104,558.96
3	Detailed Planning & Hire Owner's Engineer	\$110,802.72
4	Detailed Site Characterization Study	\$783,536.00
5	Hire Demolition General Contractor	\$198,647.04
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20
7	Demolition Contractor Mobilizes on Site	\$0.00
8	KCP&L Overhead during Dismantlement	\$2,004,866.33
9	KCP&L Project Manager	\$282,630.38
10	KCP&L Administrative Support	\$104,541.59
11	KCP&L Engineer	\$464,606.36
12	Owners Engineer Project Manager	\$141,728.00
13	Owners Engineer - Engineer	\$1,011,360.00
14	Demolition Contractor Overhead during Dismantlement	\$969,151.12
15	Demolition Contractor Project Manager	\$274,202.38
16	Demolition Contractor Safety Manager	\$244,171.18
17	Demolition Contractor Superintendent	\$450,777.57
18	Demolition Contractor Equipment Rental Costs	\$1,633,380.67
19	Equipment Rental	\$1,633,380.67
20	Demolition Contractor Consumables	\$1,629,562.40
21	Consumables	\$1,629,562.40
22	Scrap Crew(s)	\$1,591,412.80
23	Crew to Handle Scrap Material(s)	\$1,591,412.80
24	Dismantlement Directs	\$11,833,497.68
25	Phase 1 Demolition	\$1,065,881.92
26	Phase 1 Electrical Demolition	\$439,040.24
27	Electrical Demolition of Phase 1 Equipment	\$439,040.24
28	Condensate System	\$109,178.32
29	Condensate Pumps	\$3,700.96
30	Condensate Transfer Pumps	\$1,850.48
31	Cycle Make-Up Pump	\$1,850.48
32	Steam Packing Exhauster and Blower	\$3,700.96
33	Low Pressure Heaters (except the condenser neck heat exchangers)	\$55,514.40
34	Deaerator	\$14,803.84
35	Deaerator Storage Tank	\$9,252.40
36	Condensate Piping	\$18,504.80
37	Boiler Feed System	\$70,061.52
38	Boiler Feed Pump Turbine and Exhaust	\$14,547.12
39	Boiler Feed Pump	\$18,504.80
40	High Pressure Heaters	\$37,009.60
41	Critical Piping	\$83,271.60
42	Main Steam Piping	\$27,757.20
43	Cold Reheat Piping	\$27,757.20
44	Hot Reheat Piping	\$27,757.20
45	Extraction Steam System	\$18,504.80
46	Piping	\$18,504.80
47	Heater Drips	\$14,803.84
48	Piping	\$14,803.84

La Cygne Unit 2 Dismantlement

ID	Task Name	Cost
49	Auxiliary Steam	\$16,654.32
50	Auxiliary Steam Piping	\$16,654.32
51	Circulating Water (plant side)	\$9,252.40
52	Waterboxes	\$9,252.40
53	Bearing Cooling Water	\$31,458.16
54	Bearing Cooling Water Pumps	\$3,700.96
55	Bearing Cooling Water Heat Exchanger	\$9,252.40
56	Bearing Cooling Water Piping	\$18,504.80
57	Auxiliary Cooling Water	\$29,607.68
58	Auxiliary Cooling Water Heat Exchanger	\$5,551.44
59	Auxiliary Cooling Water Pumps	\$5,551.44
60	Auxiliary Cooling Water Piping	\$18,504.80
61	Service Water	\$9,252.40
62	Service Water Piping	\$9,252.40
63	Fuel Oil System (plant side)	\$42,561.04
64	Igniter Fuel Oil Pumps	\$5,551.44
65	Igniter Fuel Oil and Atomizing Air Piping	\$9,252.40
66	Igniters	\$27,757.20
67	Waste Oil System	\$12,953.36
68	Waste Oil Tank	\$3,700.96
69	Waste Oil Transfer Pump	\$3,700.96
70	Waste Oil Piping	\$5,551.44
71	Air Preheat System	\$10,576.08
72	Air Preheat Pumps	\$3,700.96
73	Air Preheat Piping	\$6,875.12
74	Condenser Air Extraction System	\$11,102.88
75	Vacuum Pumps	\$7,401.92
76	Extraction Piping	\$3,700.96
77	Turbine Seals and Drains	\$12,953.36
78	Piping	\$12,953.36
79	Turbine Lube Oil System	\$21,038.32
80	Turbine Lube Oil Tank	\$11,785.92
81	Turbine Lube Oil Pumps	\$7,401.92
82	Turbine Oil Mist Eliminator	\$1,850.48
83	Generator Auxiliary Systems	\$33,308.64
84	Hydrogen Cooler Skid and Piping	\$9,252.40
85	Stator Cooling Water Skid and Piping	\$9,252.40
86	Isophase Bus Duct	\$7,401.92
87	Exciter Heat Exchanger	\$3,700.96
88	EHC Coolers	\$3,700.96
89	Chemical Feed Systems	\$19,942.32
90	Tanks	\$8,839.44
91	Pumps	\$5,551.44
92	Piping	\$5,551.44
93	Sampling Systems	\$6,647.44
94	Field Mounted Heat Exchangers	\$3,700.96
95	Piping	\$2,946.48
96	Building Heating Systems	\$13,750.24
97	Steam Unit Heaters	\$9,821.60

La Cygne Unit 2 Dismantlement

ID	Task Name	Cost
98	Steam Piping	\$3,928.64
99	Compressed Air System	\$27,757.20
100	Air Compressors	\$7,401.92
101	Air Drying Equipment	\$5,551.44
102	Air Receiver Tanks	\$5,551.44
103	Compressed Air Piping	\$9,252.40
104	Miscellaneous Equipment	\$22,205.76
105	Miscellaneous Equipment (including Fire Protection)	\$22,205.76
106	Phase 2 Demolition	\$6,531,394.96
107	Precipitator	\$3,638,750.00
108	Remove Precipitator	\$3,638,750.00
109	Boiler Equipment	\$734,495.36
110	Fans	\$65,336.00
111	Pulverizers	\$74,019.20
112	Bottom Ash	\$16,995.84
113	Air Heater	\$207,253.76
114	Steam Drum	\$92,524.00
115	Coal Bunkers	\$74,019.20
116	Coal Feeders	\$48,112.48
117	Soot Blowers	\$52,608.00
118	Ductwork	\$103,626.88
119	Boiler Removal	\$414,507.52
120	Furnace	\$236,861.44
121	Back Pass	\$177,646.08
122	Boiler Steel Framing	\$747,593.92
123	Hanger Girders at Top	\$111,028.80
124	All Other Framing	\$347,890.24
125	Bracing and Girts	\$170,244.16
126	Columns	\$118,430.72
127	Boiler Foundations	\$133,234.56
128	Equipment Foundation Demolition to Grade	\$133,234.56
129	Remove Turbine	\$862,813.60
130	Remove HP Turbine	\$27,188.00
131	Remove IP Turbine	\$27,188.00
132	Remove LP Turbine	\$27,188.00
133	Remove Generator	\$54,376.00
134	Remove Condenser Neck Heat Exchanger	\$27,188.00
135	Remove Condenser	\$27,188.00
136	Remove Misc. Auxiliary Turbine Equipment	\$40,782.00
137	Turbine Pedestal Demolition to Grade	\$277,317.60
138	Top Slab and Beams	\$108,752.00
139	Columns	\$168,565.60
140	Remove Turbine Building	\$354,398.00
141	Siding and Roofing	\$112,340.00
142	All Framing Elevations	\$163,128.00
143	Bracing and Girts	\$54,376.00
144	Columns	\$24,554.00
145	Phase 3 Demolition	\$236,220.80
146	Yard Demolition	\$236,220.80

La Cygne Unit 2 Dismantlement

ID	Task Name	Cost
147	Remove Circulating Water Pumps, Screens and Intake Auxiliaries	\$18,504.80
148	Remove Ash Handling Equipment and Piping	\$46,262.00
149	Remove Fly Ash Storage Silo 2A	\$18,504.80
150	Remove Dewatering Bin 2A and 2B	\$9,252.40
151	Remove Piping and Misc. Equipment	\$18,504.80
152	Remove Fuel Yard Equipment	\$83,271.60
153	Remove Crushers 2A, 2B and Surge Bin	\$27,757.20
154	Remove Conveyor 206	\$18,504.80
155	Remove Conveyor 207	\$18,504.80
156	Remove Conveyor 2A	\$18,504.80
157	Remove Laydown Equipment and Warehoused Equipment	\$18,504.80
158	Remove Unit 2 Condensate Storage Tank and Pump	\$4,910.80
159	Remove Unit 2 Make-Up Water Storage Tank	\$9,252.40
160	Remove Unit 2 Water Pre-Treatment Equipment and Building	\$55,514.40
161	Stack Demolition	\$4,000,000.00
162	Stack Demolition	\$4,000,000.00
163	Project Close-Out	\$69,510.40
164	Project Close-Out Activities	\$69,510.40

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
0	La Cygne Unit 2 Dismantlement	735 days	[Timeline bar from Qtr 1 to Qtr 4]															
1	La Cygne Unit 2 Dismantlement	735 days	[Timeline bar from Qtr 1 to Qtr 4]															
2	Pre-Dismantlement Activities	265 days	[Timeline bar from Qtr 1 to Qtr 2]															
3	Detailed Planning & Hire Owner's Engineer	3 mons	[Timeline bar from Qtr 1 to Qtr 2]															
4	Detailed Site Characterization Study	130 days	[Timeline bar from Qtr 1 to Qtr 2]															
5	Hire Demolition General Contractor	3 mons	[Timeline bar from Qtr 1 to Qtr 2]															
6	KCP&L Prepares Unit for Dismantlement	2 wks	[Timeline bar from Qtr 1 to Qtr 2]															
7	Demolition Contractor Mobilizes on Site	5 days	[Timeline bar from Qtr 1 to Qtr 2]															
8	KCP&L Overhead during Dismantlement	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
9	KCP&L Project Manager	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
10	KCP&L Administrative Support	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
11	KCP&L Engineer	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
12	Owners Engineer Project Manager	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
13	Owners Engineer - Engineer	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
14	Demoliton Contractor Overhead during Dismantlement	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
15	Demolition Contractor Project Manager	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
16	Demolition Contractor Safety Manager	430 days	[Timeline bar from Qtr 3 to Qtr 4]															
17	Demolition Contractor Superintendent	430 days	[Timeline bar from Qtr 3 to Qtr 4]															

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
18	Demolition Contractor Equipment Rental Costs	430 days																
19	Equipment Rental	430 days																
20	Demolition Contractor Consumables	430 days																
21	Consumables	430 days																
22	Scrap Crew(s)	430 days																
23	Crew to Handle Scrap Material(s)	430 days																
24	Dismantlement Directs	430 days																
25	Phase 1 Demolition	191 days																
26	Phase 1 Electrical Demolition	191 days																
27	Electrical Demolition of Phase 1 Equipment	191 days																
28	Condensate System	30 days																
29	Condensate Pumps	2 days																
30	Condensate Transfer Pumps	1 day																
31	Cycle Make-Up Pump	1 day																
32	Steam Packing Exhauster and Blower	2 days																
33	Low Pressure Heaters (except the condenser neck heat exchangers)	30 days																
34	Deaerator	8 days																
35	Deaerator Storage Tank	5 days																

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
36	Condensate Piping	10 days																
37	Boiler Feed System	37 days																
38	Boiler Feed Pump Turbine and Exhaust	7 days																
39	Boiler Feed Pump	10 days																
40	High Pressure Heaters	20 days																
41	Critical Piping	45 days																
42	Main Steam Piping	15 days																
43	Cold Reheat Piping	15 days																
44	Hot Reheat Piping	15 days																
45	Extraction Steam System	10 days																
46	Piping	10 days																
47	Heater Drips	8 days																
48	Piping	8 days																
49	Auxiliary Steam	9 days																
50	Auxiliary Steam Piping	9 days																
51	Circulating Water (plant side)	5 days																
52	Waterboxes	5 days																
53	Bearing Cooling Water	17 days																

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
54	Bearing Cooling Water Pumps	2 days																
55	Bearing Cooling Water Heat Exchanger	5 days																
56	Bearing Cooling Water Piping	10 days																
57	Auxiliary Cooling Water	16 days																
58	Auxiliary Cooling Water Heat Exchanger	3 days																
59	Auxiliary Cooling Water Pumps	3 days																
60	Auxiliary Cooling Water Piping	10 days																
61	Service Water	5 days																
62	Service Water Piping	5 days																
63	Fuel Oil System (plant side)	120 days																
64	Igniter Fuel Oil Pumps	3 days																
65	Igniter Fuel Oil and Atomizing Air Piping	5 days																
66	Igniters	15 days																
67	Waste Oil System	7 days																
68	Waste Oil Tank	2 days																
69	Waste Oil Transfer Pump	2 days																
70	Waste Oil Piping	3 days																
71	Air Preheat System	9 days																

Crew 3 Operator, Crew 3 Laborer [300%

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
72	Air Preheat Pumps	2 days																
73	Air Preheat Piping	7 days																
74	Condenser Air Extraction System	6 days																
75	Vacuum Pumps	4 days																
76	Extraction Piping	2 days																
77	Turbine Seals and Drains	7 days																
78	Piping	7 days																
79	Turbine Lube Oil System	17 days																
80	Turbine Lube Oil Tank	12 days																
81	Turbine Lube Oil Pumps	4 days																
82	Turbine Oil Mist Eliminator	1 day																
83	Generator Auxiliary Systems	18 days																
84	Hydrogen Cooler Skid and Piping	5 days																
85	Stator Cooling Water Skid and Piping	5 days																
86	Isophase Bus Duct	4 days																
87	Exciter Heat Exchanger	2 days																
88	EHC Coolers	2 days																
89	Chemical Feed Systems	15 days																

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
90	Tanks	9 days																
91	Pumps	3 days																
92	Piping	3 days																
93	Sampling Systems	5 days																
94	Field Mounted Heat Exchangers	2 days																
95	Piping	3 days																
96	Building Heating Systems	14 days																
97	Steam Unit Heaters	10 days																
98	Steam Piping	4 days																
99	Compressed Air System	15 days																
100	Air Compressors	4 days																
101	Air Drying Equipment	3 days																
102	Air Reciever Tanks	3 days																
103	Compressed Air Piping	5 days																
104	Miscellaneous Equipment	12 days																
105	Miscellaneous Equipment (including Fire Protection)	12 days																
106	Phase 2 Demolition	333 days																
107	Precipitator	30 days																

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
108	Remove Precipitator	30 days																
109	Boiler Equipment	134 days																
110	Fans	20 days																
111	Pulverizers	20 days																
112	Bottom Ash	6 days																
113	Air Heater	56 days																
114	Steam Drum	25 days																
115	Coal Bunkers	20 days																
116	Coal Feeders	13 days																
117	Soot Blowers	16 days																
118	Ductwork	28 days																
119	Boiler Removal	56 days																
120	Furnace	32 days																
121	Back Pass	24 days																
122	Boiler Steel Framing	101 days																
123	Hanger Girders at Top	15 days																
124	All Other Framing	47 days																
125	Bracing and Girts	23 days																

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
126	Columns	16 days																
127	Boiler Foundations	18 days																
128	Equipment Foundation Demolition to Grade	18 days																
129	Remove Turbine	333 days																
130	Remove HP Turbine	10 days																
131	Remove IP Turbine	10 days																
132	Remove LP Turbine	10 days																
133	Remove Generator	20 days																
134	Remove Condenser Neck Heat Exchanger	10 days																
135	Remove Condenser	10 days																
136	Remove Misc. Auxiliary Turbine Equipment	15 days																
137	Turbine Pedestal Demolition to Grade	102 days																
138	Top Slab and Beams	40 days																
139	Columns	62 days																
140	Remove Turbine Building	146 days																
141	Siding and Roofing	41 days																
142	All Framing Elevations	60 days																
143	Bracing and Girts	20 days																

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	
144	Columns	25 days																	
145	Phase 3 Demolition	130 days																	
146	Yard Demolition	130 days																	
147	Remove Circulating Water Pumps, Screens and Intake Auxiliaries	10 days																	
148	Remove Ash Handling Equipment and Piping	25 days																	
149	Remove Fly Ash Storage Silo 2A	10 days																	
150	Remove Dewatering Bin 2A and 2B	5 days																	
151	Remove Piping and Misc. Equipment	10 days																	
152	Remove Fuel Yard Equipment	45 days																	
153	Remove Crushers 2A, 2B and Surge Bin	15 days																	
154	Remove Conveyor 206	10 days																	
155	Remove Conveyor 207	10 days																	
156	Remove Conveyor 2A	10 days																	
157	Remove Laydown Equipment and Warehoused Equipment	10 days																	
158	Remove Unit 2 Condensate Storage Tank and Pump	5 days																	
159	Remove Unit 2 Make-Up Water Storage Tank	5 days																	
160	Remove Unit 2 Water Pre-Treatment Equipment and Building	30 days																	
161	Stack Demolition	1 day																	

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
162	Stack Demolition	1 day																
163	Project Close-Out	40 days																
164	Project Close-Out Activities	40 days																

La Cygne Unit 2 AQCS Dismantlement

ID	Task Name	Cost
0	La Cygne Unit 2 AQCS Dismantlement	\$4,760,227.56
1	La Cygne Unit 2 AQCS Dismantlement	\$4,760,227.56
2	Common Removal Overheads	\$367,218.00
3	Added Overhead Staff for Common Removals	\$367,218.00
4	Scrap Crew	\$638,415.60
5	Crew(s) to Handle Scrap Material	\$638,415.60
6	Demolition Contractor Consummables	\$1,307,439.60
7	Consummables	\$1,307,439.60
8	Demolition Contractor Equipment Rental Costs	\$1,310,503.20
9	Equipment Rental	\$1,310,503.20
10	Dismantlement	\$1,136,651.16
11	Initial Structural	\$134,621.84
12	Remove SCR box & ductwork lagging & insulation	\$18,504.80
13	Remove SCR expansion joints	\$11,102.88
14	Remove ductwork lagging & insulation	\$8,220.00
15	Remove ductwork expansion joints	\$18,504.80
16	Remove ductwork access platforms & ladders	\$18,504.80
17	Remove FF lagging, insulation, wall panel, & roof panels	\$37,009.60
18	Remove ID fan lagging & insulation	\$7,401.92
19	Removal all HVAC equipment located on FGD Bldg roof	\$5,551.44
20	Remove FGD Bldg lagging, insulation, wall panel, & roof	\$9,821.60
21	General Electric	\$239,058.56
22	Remove Unit 2 Air Quality Control Equipment Transformer	\$6,895.92
23	Remove breakers serving all FF equipment	\$1,149.32
24	Remove breakers serving all FGD equipment	\$2,298.64
25	Remove breakers serving all ID fan equipment	\$1,149.32
26	Remove breakers serving all SCR equipment	\$1,149.32
27	Remove breakers serving all comp air equipment	\$1,149.32
28	Remove all ductwork primary instrumentation, controls & assoc'd cables, and	\$11,493.20
29	Remove all FGD primary instrumentation, controls & assoc'd cables, and cond	\$34,479.60
30	Remove all FF primary instrumentation, controls & assoc'd cables, and condui	\$22,986.40
31	Remove SCR primary instrumentation, controls, & assoc'd cable & conduit	\$11,493.20
32	Remove NH3 supply primary instrumentation, controls, & assoc'd cable & con	\$11,493.20
33	Remove wiring and conduit serving FGD equipment, HVAC, lighting and conve	\$45,972.80
34	Remove wiring and conduit serving FF equipment, HVAC, lighting and conveni	\$22,986.40
35	Remove wiring and conduit serving the ID fans and assoc'd equipment	\$27,583.68
36	Remove wiring & conduit serving SCR vaporization & injection equipment	\$6,895.92
37	Remove wiring & conduit serving compressed air equipment	\$6,895.92
38	Remove electrical control cabinets & switchgear	\$22,986.40
39	FGD System	\$281,065.32
40	Remove ductwork between FGD module and chimney	\$8,220.00
41	Remove support steel and access platforms between FGD and chimney	\$5,551.44
42	Remove all mechanical equipment, pumps, and motors and tanks in FGD Bldg	\$37,009.60
43	Remove oxi air blowers	\$925.24
44	Remove all FGD piping & valves other than recirc piping	\$27,757.20
45	Remove ox air lines	\$5,551.44
46	Remove FGD MEs panels	\$9,864.00
47	Remove FGD outlet duct and top cone	\$5,551.44
48	Remove FGD internal wash ME piping and ME supports	\$5,551.44

La Cygne Unit 2 AQCS Dismantlement

ID	Task Name	Cost
49	Remove FGD internal spray header piping	\$9,252.40
50	Remove FGD support steel, access provisions, stair tower, and recirc piping fr	\$37,009.60
51	Remove FGD module walls	\$74,019.20
52	Remove FGD inlet duct	\$5,551.44
53	Remove FGD reaction tank walls and floor	\$18,504.80
54	Remove FGD Bldg trench floor grating	\$3,700.96
55	Remove Unit 2 Sorbent Injection System Silo	\$7,401.92
56	Remove Unit 2 Sorbent Injection Equipment and Injection Blower Building	\$9,252.40
57	Remove Unit 2 Mercury Reduction System Silo	\$10,390.80
58	ID Fans	\$81,421.12
59	Remove ductwork between ID fan outlets and FGD module	\$12,953.36
60	Remove support steel and access platforms between ID fan outlets and FGD n	\$5,551.44
61	Remove ductwork between FF outlet and ID fan inlets	\$12,953.36
62	Remove support steel between FF outlet and ID fan inlets	\$5,551.44
63	Removed ID fan isolation dampers	\$14,803.84
64	Removed ID fan drive motor	\$7,401.92
65	Remove ID fan seal air system	\$7,401.92
66	Remove fan casing & rotor	\$14,803.84
67	Fabric Filters	\$324,614.64
68	Remove ductwork between air heater and FF	\$9,252.40
69	Remove ductwork structural steel between AH and FF	\$5,551.44
70	Remove FF penthouse hoists and trolleys	\$7,401.92
71	Remove FF hopper heaters, HVAC, lighting and convenience outlets	\$22,986.40
72	Remove FF ash handling piping	\$27,757.20
73	Remove compress air blower, dryers, and receivers, piping & valves	\$18,504.80
74	Remove FF penthouse roof panels supporting steel	\$18,504.80
75	Remove FF compartment roof hatches	\$5,551.44
76	Remove FF compartment pulse air piping	\$5,551.44
77	Remove FF compartment pulse air and compressed air supply piping	\$11,102.88
78	Remove FF outlet poppet damper operators	\$12,953.36
79	Remove FF bags & cages	\$25,906.72
80	Remove FF bag support sheets	\$25,906.72
81	Remove remaining FF roof	\$7,401.92
82	Remove FF outlet dampers	\$7,401.92
83	Remove ductwork between air heater and FF	\$9,252.40
84	Remove FF wall panels to hopper level	\$51,813.44
85	Remove ductwork structural steel between AH and FF	\$5,551.44
86	Remove FF stair tower(s)	\$18,504.80
87	Remove FF inlet dampers	\$7,401.92
88	Remove FF hoppers	\$12,953.36
89	Remove FF support steel	\$7,401.92
90	SCR and Ammonia Supply	\$75,869.68
91	Vacuum SCR catalyst	\$3,700.96
92	Remove SCR catalyst	\$16,654.32
93	Remove ammonia injection grid	\$3,700.96
94	Remove NH3 piping between storage & injection	\$3,700.96
95	Remove air horn air receiver & supply piping	\$3,700.96
96	Remove SCR guillotine dampers	\$7,401.92
97	Remove SCR muliti-louver dampers	\$3,700.96

La Cygne Unit 2 AQCS Dismantlement

ID	Task Name	Cost
98	Remove SCR box, internal supports, & assoc'd ductwork	\$27,757.20
99	Remove NH3 piping between storage & vaporizers	\$5,551.44











ID	Task Name	Duration	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart
0	La Cygne Unit 2 AQCS Dismantlement	350.5 days									
1	La Cygne Unit 2 AQCS Dismantlement	350.5 days									
2	Common Removal Overheads	345 days									
3	Added Overhead Staff for Common Removals	345 days									
4	Scrap Crew	345 days									
5	Crew(s) to Handle Scrap Material	345 days									
6	Demolition Contractor Consummables	345 days									
7	Consummables	345 days									
8	Demolition Contractor Equipment Rental Costs	345 days									
9	Equipment Rental	345 days									
10	Dismantlement	350.5 days									
11	Initial Structural	212.5 days									
12	Remove SCR box & ductwork lagging & insulation	10 days									
13	Remove SCR expansion joints	6 days									
14	Remove ductwork lagging & insulation	5 days									
15	Remove ductwork expansion joints	10 days									
16	Remove ductwork access platforms & ladders	10 days									
17	Remove FF lagging, insulation, wall panel, & roof panels	20 days									

ID	Task Name	Duration	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart
18	Remove ID fan lagging & insulation	4 days									
19	Removal all HVAC equipment located on FGD Bldg roof	3 days									
20	Remove FGD Bldg lagging, insulation, wall panel, & roof	10 days									
21	General Electric	73 days									
22	Remove Unit 2 Air Quality Control Equipment Transformer	3 days									
23	Remove breakers serving all FF equipment	0.5 days									
24	Remove breakers serving all FGD equipment	1 day									
25	Remove breakers serving all ID fan equipment	0.5 days									
26	Remove breakers serving all SCR equipment	0.5 days									
27	Remove breakers serving all comp air equipment	0.5 days									
28	Remove all ductwork primary instrumentation, controls & assoc'd cables, and conduit	5 days									
29	Remove all FGD primary instrumentation, controls & assoc'd cables, and conduit	15 days									
30	Remove all FF primary instrumentation, controls & assoc'd cables, and conduit	10 days									
31	Remove SCR primary instrumentation, controls, & assoc'd cable & conduit	5 days									
32	Remove NH3 supply primary instrumentation, controls, & assoc'd cable & conduit	5 days									
33	Remove wiring and conduit serving FGD equipment, HVAC, lighting and convenience outlets	20 days									
34	Remove wiring and conduit serving FF equipment, HVAC, lighting and convenience outlets	10 days									

ID	Task Name	Duration	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart
35	Remove wiring and conduit serving the ID fans and assoc'd equipment	12 days									
36	Remove wiring & conduit serving SCR vaporization & injection equipment	3 days									
37	Remove wiring & conduit serving compressed air equipment	3 days									
38	Remove electrical control cabinets & switchgear	10 days									
39	FGD System	108.5 days									
40	Remove ductwork between FGD module and chimney	5 days									
41	Remove support steel and access platforms between FGD and chimney	3 days									
42	Remove all mechanical equipment, pumps, and motors and tanks in FGD Bldg	20 days									
43	Remove oxi air blowers	0.5 days									
44	Remove all FGD piping & valves other than recirc piping	15 days									
45	Remove ox air lines	3 days									
46	Remove FGD MEs panels	6 days									
47	Remove FGD outlet duct and top cone	3 days									
48	Remove FGD internal wash ME piping and ME supports	3 days									
49	Remove FGD internal spray header piping	5 days									
50	Remove FGD support steel, access provisions, stair tower, and recirc piping from top down	20 days									
51	Remove FGD module walls	20 days									
52	Remove FGD inlet duct	3 days									

ID	Task Name	Duration	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart
53	Remove FGD reaction tank walls and floor	10 days									
54	Remove FGD Bldg trench floor grating	2 days									
55	Remove Unit 2 Sorbent Injection System Silo	4 days									
56	Remove Unit 2 Sorbent Injection Equipment and Injection Blower Building	5 days									
57	Remove Unit 2 Mercury Reduction System Silo	5 days									
58	ID Fans	75 days									
59	Remove ductwork between ID fan outlets and FGD module	7 days									
60	Remove support steel and access platforms between ID fan outlets and FGD module	3 days									
61	Remove ductwork between FF outlet and ID fan inlets	7 days									
62	Remove support steel between FF outlet and ID fan inlets	3 days									
63	Removed ID fan isolation dampers	8 days									
64	Removed ID fan drive motor	4 days									
65	Remove ID fan seal air system	4 days									
66	Remove fan casing & rotor	8 days									
67	Fabric Filters	350.5 days									
68	Remove ductwork between air heater and FF	5 days									
69	Remove ductwork structural steel between AH and FF	3 days									
70	Remove FF penthouse hoists and trolleys	4 days									

ID	Task Name	Duration	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart
71	Remove FF hopper heaters, HVAC, lighting and convenience outlets	10 days									
72	Remove FF ash handling piping	15 days									
73	Remove compress air blower, dryers, and receivers, piping & valves	10 days									
74	Remove FF penthouse roof panels supporting steel	10 days									
75	Remove FF compartment roof hatches	3 days									
76	Remove FF compartment pulse air piping	3 days									
77	Remove FF compartment pulse air and compressed air supply piping	6 days									
78	Remove FF outlet poppet damper operators	7 days									
79	Remove FF bags & cages	14 days									
80	Remove FF bag support sheets	14 days									
81	Remove remaining FF roof	4 days									
82	Remove FF outlet dampers	4 days									
83	Remove ductwork between air heater and FF	5 days									
84	Remove FF wall panels to hopper level	28 days									
85	Remove ductwork structural steel between AH and FF	3 days									
86	Remove FF stair tower(s)	10 days									
87	Remove FF inlet dampers	4 days									
88	Remove FF hoppers	7 days									

ID	Task Name	Duration	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart	1st Quart	2nd Quar	3rd Quart	4th Quart
89	Remove FF support steel	4 days									
90	SCR and Ammonia Supply	38 days									
91	Vacuum SCR catalyst	2 days									
92	Remove SCR catalyst	9 days									
93	Remove ammonia injection grid	2 days									
94	Remove NH3 piping between storage & injection	2 days									
95	Remove air horn air receiver & supply piping	2 days									
96	Remove SCR guillotine dampers	4 days									
97	Remove SCR muliti-louver dampers	2 days									
98	Remove SCR box, internal supports, & assoc'd ductwork	15 days									
99	Remove NH3 piping between storage & vaporizors	3 days									

COMMON

La Cygne Common Retirement

Owner Costs

Pre-Retirement Activities	\$55,645
Retirement Activities	\$647,555
Post-Retirement Activities	\$27,822

Owner Direct Total \$731,022

Owner Internal Costs 5.00% \$36,551

Owner Contingency: 25.00% \$191,893

La Cygne Common Retirement Opinion of Probable Cost: \$959,466

Activities Required by Permit or Regulation

La Cygne Landfill - Closure	\$9,954,062
La Cygne Landfill - Post Closure	\$6,162,607
La Cygne Ash Pond(s)- Closure	\$61,277,411
La Cygne Ash Pond(s) - Post Closure	\$10,300,356
La Cygne Station Asbestos Removal	\$594,391

Activities Required by Permit or Regulation: \$88,288,826

ID	Task Name	Remaining
0	La Cygne Common Retirement	\$731,022.03
1	La Cygne Common Retirement	\$731,022.03
2	Pre-Retirement Activities	\$55,644.80
3	Permitting Review	\$27,822.40
4	Develop Detailed Retirement Plan	\$27,822.40
5	Overheads	\$180,256.71
6	Retirement Overheads	\$158,004.39
7	Added Overhead Staff for Common Retirement	\$158,004.39
8	Common Removal Equipment Rental	\$22,252.32
9	Common Removal Equipment Rental	\$22,252.32
10	Retirement Activities	\$467,298.12
11	Administration Building	\$10,275.20
12	Secure Administration Building	\$10,275.20
13	Fuel Yard Office Building	\$6,165.12
14	Secure Fuel Yard Office Building	\$6,165.12
15	Training Building	\$6,165.12
16	Secure Training Building	\$6,165.12
17	Warehouse(s)	\$8,220.16
18	Secure Unit 1 Warehouse	\$4,110.08
19	Secure Unit 2 Warehouse	\$4,110.08
20	Welding Shop	\$12,694.80
21	Secure Welding Shop	\$12,694.80
22	Maintenance Shop	\$6,165.12
23	Secure Maintenance Shop	\$6,165.12
24	Insulators Shop	\$6,165.12
25	Secure Insulators Shop	\$6,165.12
26	Auxiliary Boilers and Building	\$4,586.40
27	Remove Aux. Boiler Chemicals	\$917.28
28	Drain Auxiliary Boilers	\$2,751.84
29	Open and Vent Auxiliary Boilers	\$917.28
30	Fuel Yard	\$122,579.04
31	Empty and Clean Silo 2a	\$3,314.16
32	Empty and Clean Silo E	\$3,314.16
33	Empty and Clean Silo F	\$3,314.16
34	Empty Transfer Hoppers and Clean Transfer Tower 201	\$4,231.44
35	Clean Truck Reclaim	\$4,231.44
36	Car Dumper	\$9,873.36
37	Empty Car Dumper Hoppers	\$1,410.48
38	Clean Car Dumper	\$4,231.44
39	Secure Dumper Building	\$4,231.44
40	Stacker/Reclaimer	\$21,410.00
41	Clean and Secure the Stacker/Reclaimer	\$7,052.40
42	Unit 1 Reclaim	\$5,641.92
43	Clean Unit 1 Reclaim	\$2,820.96
44	Secure the Unit 1 Reclaim Building	\$2,820.96

ID	Task Name	Remaining
45	Unit 2 Reclaim	\$5,641.92
46	Clean Unit 2 Reclaim	\$2,820.96
47	Secure the Unit 2 Reclaim Building	\$2,820.96
48	Clean and Secure Transfer Tower 201	\$7,052.40
49	Clean and Secure Transfer Tower 3	\$7,052.40
50	Clean and Secure Primary Crusher Building	\$7,052.40
51	Clean and Secure Old Truck Unloader	\$4,231.44
52	Clean Conveyors - 300, 302, 301, 203, 202, 201, 3, 204	\$22,567.68
53	Remove Bags and Clean Dust Collectors	\$6,597.76
54	Clean and Secure Miscellaneous Fuel Yard Equipment	\$7,052.40
55	Reagent Prep and Gypsum Handling	\$32,794.96
56	Clean and Secure Limestone Unloading Facility	\$4,231.44
57	Clean and Secure Limestone Storage Facility	\$4,231.44
58	Clean Limestone Conveyor	\$4,307.28
59	Clean and Secure Limestone Prep Building	\$7,178.80
60	Clean Gypsum Stackout Conveyor	\$2,871.52
61	Clean and Secure PCM-1	\$2,871.52
62	Clean and Secure PCM-2	\$2,871.52
63	Clean and Secure the Vacuum Pump and Air Compressor Building	\$4,231.44
64	Lake Intake Structure and Intake Chemical Feed System	\$917.28
65	Remove Chemicals	\$917.28
66	Underground Circulating Water Piping	\$4,185.60
67	Drain the Underground Circulating Water Piping	\$4,185.60
68	Sewage Treatment	\$4,724.64
69	Clean the Sewage Treatment Tanks and Transfer Points	\$4,724.64
70	Fuel Oil Storage and Unloading	\$1,834.56
71	Remove Fuel from the Fuel Oil Storage Tank(s) and Vent	\$917.28
72	Drain Fuel Oil Pipe and Vent	\$917.28
73	Wastewater Lagoon	\$239,825.00
74	Wastewater Lagoon Removal	\$239,825.00
75	Post Retirement Closure Activities	\$27,822.40
76	Post Retirement Closure Activities	\$27,822.40

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter		
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
0	La Cygne Common Retirement	161 days	[Gantt bar from Dec to Aug]								
1	La Cygne Common Retirement	161 days	[Gantt bar from Dec to Aug]								
2	Pre-Retirement Activities	40 days	[Gantt bar from Dec to Feb]								
3	Permitting Review	20 days	[Gantt bar from Jan to Feb]								
4	Develop Detailed Retirement Plan	20 days	[Gantt bar from Feb to Mar]								
5	Overheads	101 days	[Gantt bar from Mar to Aug]								
6	Retirement Overheads	101 days	[Gantt bar from Mar to Aug]								
7	Added Overhead Staff for Common Retirement	101 days	[Gantt bar from Mar to Aug]								
8	Common Removal Equipment Rental	101 days	[Gantt bar from Mar to Aug]								
9	Common Removal Equipment Rental	101 days	[Gantt bar from Mar to Aug]								
10	Retirement Activities	101 days	[Gantt bar from Mar to Aug]								
11	Administration Building	5 days	[Gantt bar from Mar to Mar]								
12	Secure Administration Building	5 days	[Gantt bar from Mar to Mar]								
13	Fuel Yard Office Building	3 days	[Gantt bar from Mar to Mar]								
14	Secure Fuel Yard Office Building	3 days	[Gantt bar from Mar to Mar]								
15	Training Building	3 days	[Gantt bar from Mar to Mar]								
16	Secure Training Building	3 days	[Gantt bar from Mar to Mar]								
17	Warehouse(s)	4 days	[Gantt bar from Mar to Mar]								
18	Secure Unit 1 Warehouse	2 days	[Gantt bar from Mar to Mar]								
19	Secure Unit 2 Warehouse	2 days	[Gantt bar from Mar to Mar]								
20	Welding Shop	5 days	[Gantt bar from Mar to Mar]								
21	Secure Welding Shop	5 days	[Gantt bar from Mar to Mar]								
22	Maintenance Shop	3 days	[Gantt bar from Mar to Mar]								
23	Secure Maintenance Shop	3 days	[Gantt bar from Mar to Mar]								
24	Insulators Shop	3 days	[Gantt bar from Mar to Mar]								
25	Secure Insulators Shop	3 days	[Gantt bar from Mar to Mar]								
26	Auxiliary Boilers and Building	5 days	[Gantt bar from Mar to Mar]								
27	Remove Aux. Boiler Chemicals	1 day	[Gantt bar from Mar to Mar]								
28	Drain Auxiliary Boilers	3 days	[Gantt bar from Mar to Mar]								
29	Open and Vent Auxiliary Boilers	1 day	[Gantt bar from Mar to Mar]								
30	Fuel Yard	78 days	[Gantt bar from Mar to Aug]								
31	Empty and Clean Silo 2a	3 days	[Gantt bar from Mar to Mar]								
32	Empty and Clean Silo E	3 days	[Gantt bar from Mar to Mar]								

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter	
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
33	Empty and Clean Silo F	3 days								
34	Empty Transfer Hoppers and Clean Transfer Tower 201	3 days								
35	Clean Truck Reclaim	3 days								
36	Car Dumper	7 days								
37	Empty Car Dumper Hoppers	1 day								
38	Clean Car Dumper	3 days								
39	Secure Dumper Building	3 days								
40	Stacker/Reclaimer	5 days								
41	Clean and Secure the Stacker/Reclaimer	5 days								
42	Unit 1 Reclaim	4 days								
43	Clean Unit 1 Reclaim	2 days								
44	Secure the Unit 1 Reclaim Building	2 days								
45	Unit 2 Reclaim	4 days								
46	Clean Unit 2 Reclaim	2 days								
47	Secure the Unit 2 Reclaim Building	2 days								
48	Clean and Secure Transfer Tower 201	5 days								
49	Clean and Secure Transfer Tower 3	5 days								
50	Clean and Secure Primary Crusher Building	5 days								
51	Clean and Secure Old Truck Unloader	3 days								
52	Clean Conveyors - 300, 302, 301, 203, 202, 201, 3, 204	16 days								
53	Remove Bags and Clean Dust Collectors	4 days								
54	Clean and Secure Miscellaneous Fuel Yard Equipment	5 days								
55	Reagent Prep and Gypsum Handling	23 days								
56	Clean and Secure Limestone Unloading Facility	3 days								
57	Clean and Secure Limestone Storage Facility	3 days								
58	Clean Limestone Conveyor	3 days								
59	Clean and Secure Limestone Prep Building	5 days								
60	Clean Gypsum Stackout Conveyor	2 days								
61	Clean and Secure PCM-1	2 days								
62	Clean and Secure PCM-2	2 days								
63	Clean and Secure the Vacuum Pump and Air Compressor Building	3 days								
64	Lake Intake Structure and Intake Chemical Feed System	1 day								

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter	
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
65	Remove Chemicals	1 day								
66	Underground Circulating Water Piping	3 days								
67	Drain the Underground Circulating Water Piping	3 days								
68	Sewage Treatment	4 days								
69	Clean the Sewage Treatment Tanks and Transfer Points	4 days								
70	Fuel Oil Storage and Unloading	2 days								
71	Remove Fuel from the Fuel Oil Storage Tank(s) and Vent	1 day								
72	Drain Fuel Oil Pipe and Vent	1 day								
73	Wastewater Lagoon	1 day								
74	Wastewater Lagoon Removal	1 day								
75	Post Retirement Closure Activities	20 days								
76	Post Retirement Closure Activities	20 days								

La Cygne Common Dismantlement

Owner Additional Costs

Pre-Dismantlement Activities	\$0
Overhead During Dismantlement	\$0

Owner Costs Total \$0

Demolition General Contractor (DGC) Costs

Additional Site Management	\$112,170
Equipment Rental	\$541,300
Consumables	\$810,992
Scrap Crew(s)	\$792,005
Dismantlement	\$8,986,012
	\$11,242,480
DGC Insurance 2.00%	\$224,850
Contingency/Profit 15.00%	\$1,720,099
Performance Bond 2.00%	\$263,749

Contractor Costs Total: \$13,451,177

Total: \$13,451,177

Owner Internal Costs: 5.00% \$672,559

Owner Contingency: 25.00% \$3,530,934

La Cygne Common Dismantlement Opinion of Probable Cost: \$17,654,670

ID	Task Name	Remaining	W
1	La Cygne Common Dismantlement	\$12,513,245.27	
2	Overheads	\$2,256,467.36	
3	Common Removal Overheads	\$112,170.24	
4	Added Overhead Staff for Common Removals	\$112,170.24	
5	Common Removal Equipment Rental	\$541,300.16	
6	Common Removal Equipment Rental	\$541,300.16	
7	Demolition Contractor Consummables	\$810,991.52	
8	Consummables	\$810,991.52	
9	Scrap Crew	\$792,005.44	
10	Crew(s) to Handle Scrap Material	\$792,005.44	
11	Dismantlement Activities	\$8,986,012.31	
12	Administration Building	\$37,009.60	
13	Remove Administration Building	\$37,009.60	
14	Fuel Yard Office Building	\$18,504.80	
15	Remove Fuel Yard Office Building	\$18,504.80	
16	Training Building	\$18,504.80	
17	Remove Training Building	\$18,504.80	
18	Parking Lots and Plant Roads	\$85,122.08	
19	Plant Roads and Parking Areas	\$74,019.20	
20	Guard Shack	\$11,102.88	
21	Warehouse(s)	\$55,514.40	
22	Remove Unit 1 Warehouse	\$18,504.80	
23	Remove Unit 2 Warehouse	\$18,504.80	
24	Remove 20,000 S.F. Warehouse	\$18,504.80	
25	Welding Shop	\$29,607.68	
26	Remove Welding Shop	\$29,607.68	
27	Maintenance Shop	\$23,984.80	
28	Remove Maintenance Shop	\$23,984.80	
29	Insulators Shop	\$18,504.80	
30	Remove Insulators Shop	\$18,504.80	
31	Auxiliary Boilers and Building	\$92,524.00	
32	Remove Auxiliary Boilers	\$55,514.40	
33	Remove Building	\$18,504.80	
34	Remove Piping and Tressell	\$18,504.80	
35	Fuel Yard	\$792,005.44	
36	Remove Silo 2A	\$3,700.96	
37	Remove Silo E	\$3,700.96	
38	Remove Silo F	\$3,700.96	
39	Remove Transfer Tower 201	\$37,009.60	
40	Remove Truck Reclaim	\$18,504.80	
41	Remove Car Dumper	\$92,524.00	
42	Remove Underground Equipment	\$18,504.80	
43	Remove Above Ground Equipment	\$37,009.60	
44	Remove Building	\$18,504.80	
45	Backfill Dumper Structure	\$18,504.80	
46	Remove Stacker/Reclaimer	\$37,009.60	

ID	Task Name	Remaining	W
47	Remove Unit 1 Reclaim	\$66,617.28	
48	Remove Underground Equipment	\$18,504.80	
49	Remove Above Ground Equipment	\$18,504.80	
50	Remove Building	\$14,803.84	
51	Backfill Structure	\$14,803.84	
52	Remove Unit 2 Reclaim	\$66,617.28	
53	Remove Underground Equipment	\$18,504.80	
54	Remove Above Ground Equipment	\$18,504.80	
55	Remove Building	\$14,803.84	
56	Backfill Structure	\$14,803.84	
57	Remove Transfer Tower 201	\$55,514.40	
58	Remove Transfer Tower 3	\$55,514.40	
59	Remove Primary Crusher Building	\$74,019.20	
60	Remove Old Truck Unloader	\$74,019.20	
61	Remove Conveyors - 300, 302, 301, 203, 202, 201, 3, 204	\$148,038.40	
62	Remove Dust Collectors	\$18,504.80	
63	Remove Miscellaneous Fuel Yard Equipment	\$37,009.60	
64	AQCS Common	\$413,928.16	
65	Remove Limestone Unloading Facility	\$37,009.60	
66	Remove Limestone Storage Facility	\$18,504.80	
67	Remove Limestone Conveyor	\$18,504.80	
68	Remove Limestone Prep Building	\$148,038.40	
69	Remove Gypsum Stackout Conveyor	\$18,504.80	
70	Remove PCM-1	\$7,401.92	
71	Remove PCM-2	\$7,401.92	
72	Remove the Vacuum Pump and Air Compressor Building	\$74,019.20	
73	Remove Gypsum Dewatering Building	\$10,298.16	
74	Remove Service Water Tanks	\$5,914.16	
75	Remove Emergency Limestone Conveyor Tunnel	\$3,722.16	
76	Remove Limestone Slurry Tanks	\$9,202.16	
77	Remove AQCS Electrical Enclosure	\$2,284.64	
78	Remove FlyAsh Equipment Building	\$10,298.16	
79	Remove Limestone and Gypsum Handling Conveyors	\$11,394.16	
80	Remove Reclaim Water Tanks	\$5,914.16	
81	Remove Remaining Absorber Equipment Building	\$7,010.16	
82	Remove Miscellaneous Equipment	\$18,504.80	
83	Lake Intake Structure and Intake Chemical Feed System	\$118,430.72	
84	Remove Chemical Feed System and Misc. Equipment	\$7,401.92	
85	Remove Concrete Intake Structure	\$74,019.20	
86	Complete Intake Grading and Drainage	\$37,009.60	
87	Underground Circulating Water Piping	\$55,514.40	
88	Excavate Underground Circulating Water Piping	\$18,504.80	
89	Collapse Underground Circulating Water Piping	\$11,102.88	
90	Backfill and Compact Over Circulating Water Piping	\$25,906.72	
91	Sewage Treatment	\$22,205.76	
92	Remove Sewage Treatment Pumps and Miscellaneous Equipment	\$7,401.92	

ID	Task Name	Remaining	
93	Remove Sewage Treatment Concrete Structures	\$14,803.84	W
94	Yard Fire Water Systems	\$37,009.60	
95	Remove Hydrants and Fire Water System Piping Down to 3' Below Grade	\$37,009.60	
96	Common Stack	\$7,167,641.27	
97	Remove Common Stack to Grade	\$7,167,641.27	
98	Final Site Grading and Drainage	\$1,270,765.60	
99	Final Site Grading and Drainage	\$1,270,765.60	

ID	Task Name	Duration	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quarter	
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
1	La Cygne Common Dismantlement	214 days													
2	Overheads	214 days													
3	Common Removal Overheads	214 days													
4	Added Overhead Staff for Common Removals	214 days													
5	Common Removal Equipment Rental	214 days													
6	Common Removal Equipment Rental	214 days													
7	Demolition Contractor Consummables	214 days													
8	Consummables	214 days													
9	Scrap Crew	214 days													
10	Crew(s) to Handle Scrap Material	214 days													
11	Dismantlement Activities	214 days													
12	Administration Building	10 days													
13	Remove Administration Building	10 days													
14	Fuel Yard Office Building	5 days													
15	Remove Fuel Yard Office Building	5 days													
16	Training Building	5 days													
17	Remove Training Building	5 days													
18	Parking Lots and Plant Roads	23 days													
19	Plant Roads and Parking Areas	20 days													
20	Guard Shack	3 days													
21	Warehouse(s)	15 days													
22	Remove Unit 1 Warehouse	5 days													
23	Remove Unit 2 Warehouse	5 days													
24	Remove 20,000 S.F. Warehouse	5 days													
25	Welding Shop	8 days													
26	Remove Welding Shop	8 days													
27	Maintenance Shop	10 days													
28	Remove Maintenance Shop	10 days													
29	Insulators Shop	5 days													
30	Remove Insulators Shop	5 days													
31	Auxiliary Boilers and Building	25 days													
32	Remove Auxiliary Boilers	15 days													
33	Remove Building	5 days													

ID	Task Name	Duration	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quarter	
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
34	Remove Piping and Tressell	5 days													
35	Fuel Yard	214 days													
36	Remove Silo 2A	1 day													
37	Remove Silo E	1 day													
38	Remove Silo F	1 day													
39	Remove Transfer Tower 201	10 days													
40	Remove Truck Reclaim	5 days													
41	Remove Car Dumper	25 days													
42	Remove Underground Equipment	5 days													
43	Remove Above Ground Equipment	10 days													
44	Remove Building	5 days													
45	Backfill Dumper Structure	5 days													
46	Remove Stacker/Reclaimer	10 days													
47	Remove Unit 1 Reclaim	18 days													
48	Remove Underground Equipment	5 days													
49	Remove Above Ground Equipment	5 days													
50	Remove Building	4 days													
51	Backfill Structure	4 days													
52	Remove Unit 2 Reclaim	18 days													
53	Remove Underground Equipment	5 days													
54	Remove Above Ground Equipment	5 days													
55	Remove Building	4 days													
56	Backfill Structure	4 days													
57	Remove Transfer Tower 201	15 days													
58	Remove Transfer Tower 3	15 days													
59	Remove Primary Crusher Building	20 days													
60	Remove Old Truck Unloader	20 days													
61	Remove Conveyors - 300, 302, 301, 203, 202, 201, 3, 204	40 days													
62	Remove Dust Collectors	5 days													
63	Remove Miscellaneous Fuel Yard Equipment	10 days													
64	AQCS Common	151 days													
65	Remove Limestone Unloading Facility	10 days													

ID	Task Name	Duration	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quarter	
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
66	Remove Limestone Storage Facility	5 days													
67	Remove Limestone Conveyor	5 days													
68	Remove Limestone Prep Building	40 days													
69	Remove Gypsum Stackout Conveyor	5 days													
70	Remove PCM-1	2 days													
71	Remove PCM-2	2 days													
72	Remove the Vacuum Pump and Air Compressor Building	20 days													
73	Remove Gypsum Dewatering Building	9 days													
74	Remove Service Water Tanks	5 days													
75	Remove Emergency Limestone Conveyor Tunnel	3 days													
76	Remove Limestone Slurry Tanks	8 days													
77	Remove AQCS Electrical Enclosure	2 days													
78	Remove FlyAsh Equipment Building	9 days													
79	Remove Limestone and Gypsum Handling Conveyors	10 days													
80	Remove Reclaim Water Tanks	5 days													
81	Remove Remaining Absorber Equipment Building	6 days													
82	Remove Miscellaneous Equipment	5 days													
83	Lake Intake Structure and Intake Chemical Feed System	32 days													
84	Remove Chemical Feed System and Misc. Equipment	2 days													
85	Remove Concrete Intake Structure	20 days													
86	Complete Intake Grading and Drainage	10 days													
87	Underground Circulating Water Piping	15 days													
88	Excavate Underground Circulating Water Piping	5 days													
89	Collapse Underground Circulating Water Piping	3 days													
90	Backfill and Compact Over Circulating Water Piping	7 days													
91	Sewage Treatment	6 days													
92	Remove Sewage Treatment Pumps and Miscellaneous Equipment	2 days													
93	Remove Sewage Treatment Concrete Structures	4 days													
94	Yard Fire Water Systems	10 days													

ID	Task Name	Duration	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quarter	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
95	Remove Hydrants and Fire Water System Piping Down to 3' Below Grade	10 days													
96	Common Stack	1 day													
97	Remove Common Stack to Grade	1 day													
98	Final Site Grading and Drainage	1 day													
99	Final Site Grading and Drainage	1 day													

REPORT OF THE IATAN

IATAN GENERATING STATION

The IATAN Generating Station is a hydroelectric power plant located in the IATAN region. It has a capacity of 100 MW and is owned by the IATAN Corporation. The station is a run-of-river type, meaning it does not have a large reservoir. It is a run-of-river type, meaning it does not have a large reservoir. It is a run-of-river type, meaning it does not have a large reservoir.

The IATAN Generating Station is a hydroelectric power plant located in the IATAN region. It has a capacity of 100 MW and is owned by the IATAN Corporation. The station is a run-of-river type, meaning it does not have a large reservoir. It is a run-of-river type, meaning it does not have a large reservoir.

The IATAN Generating Station is a hydroelectric power plant located in the IATAN region. It has a capacity of 100 MW and is owned by the IATAN Corporation. The station is a run-of-river type, meaning it does not have a large reservoir. It is a run-of-river type, meaning it does not have a large reservoir.

The IATAN Generating Station is a hydroelectric power plant located in the IATAN region. It has a capacity of 100 MW and is owned by the IATAN Corporation. The station is a run-of-river type, meaning it does not have a large reservoir. It is a run-of-river type, meaning it does not have a large reservoir.

IATAN GENERATING STATION

The Iatan Generating Station consists of two coal-fired power plants.

Iatan Unit 1 has an SPP-accredited unit rating of 705 MW and was placed in service in 1980. Unit 1 has a sub-critical Babcock & Wilcox boiler and a General Electric turbine. Missouri River water is used for condenser cooling. Iatan Unit 1 was originally commissioned with a dedicated chimney and an electrostatic precipitator for flue gas particulate removal. In 2009, Iatan Unit 1 was retrofitted with an SCR, baghouse, and wet scrubber. The original electrostatic precipitator and stack were abandoned in place and the flue gas was redirected to a common Iatan Units 1 and 2 chimney with a dedicated Unit 1 flue.

Iatan Unit 2 has an SPP-accredited unit rated of 881 MW and was placed in service in 2010. Unit 2 has a super-critical Alstom boiler and a Toshiba turbine. A cooling tower is used for condenser cooling with well water for cooling tower makeup. Iatan Unit 2 has an SCR, baghouse, and wet scrubber. The flue gas is discharged through a common Iatan Units 1 and 2 chimney with a dedicated Unit 2 flue.

The Iatan fuel yard has a rotary car dumper to unload unit trains of coal. The coal is stored in a common fuel yard. Fuel is reclaimed from the common fuel yard via a stacker reclaimer or a series of reclaim pits and transferred to Units 1 and 2 through a common conveyor system. Coal is transferred from the common conveyor system to dedicated unit conveyors (located near the final coal transfer points for each unit).

Both Iatan Units 1 and 2 have a fuel oil igniter system. Both units are supplied with fuel oil from a common fuel oil unloading and storage facility.

Both Units 1 and 2 have a wet scrubber that utilizes a common reagent preparation and gypsum handling facility. This facility includes a limestone unloading and storage area, a limestone slurry preparation system, a gypsum preparation system, and a gypsum stack-out and storage system.

Both Units 1 and 2 beneficially use coal combustion products off site. Coal combustion products that are not beneficially used off site are disposed of in the on-site landfill.

The following are the major systems and equipment that were included in the retirement and dismantlement of each unit and the major systems and equipment that were considered common (additional details are listed in the attached retirement and dismantlement schedules included in this Appendix).

IATAN UNIT 1

1. Boiler, SCR, and boiler auxiliaries.
2. Turbine, heat balance equipment, and turbine auxiliaries.
3. Precipitator (currently retired in place).
4. Baghouse and wet scrubber.
5. Waste oil system.
6. Dedicated Unit 1 fuel handling equipment.
7. Dedicated Unit 1 fuel oil equipment.
8. Circulating water intake structure, circulating water piping, and circulating water equipment.

IATAN UNIT 2

1. Boiler, SCR, and boiler auxiliaries.
2. Turbine, heat balance equipment, and turbine auxiliaries.
3. Baghouse and wet scrubber.
4. Dedicated Unit 2 fuel handling equipment.
5. Dedicated Unit 2 fuel oil equipment.
6. Cooling tower and wells.

COMMON

1. Administration building.
2. Fuel yard office building.
3. Training building.
4. Warehouses.
5. Maintenance shops.
6. Common fuel handling equipment.
7. Sewage treatment.
8. Fuel oil storage and unloading.
9. Fire water systems.
10. Reagent preparation and gypsum handling.
11. Unit 1 stack (currently retired in place).
12. Units 1 and 2 common stack.
13. Landfill.
14. Clarifiers, clarifier storage tanks, and zero-liquid discharge equipment and auxiliaries.

UNIT 1

latan 1 Retirement

Owner Costs

Pre-Retirement Activities	\$106,968
Retirement Activities	\$706,527
Post-Retirement Activities	\$28,182

Owner Direct Total \$841,677

Owner Internal Costs 5.00% \$42,084

Owner Contingency: 25.00% \$220,940

latan 1 Retirement Opinion of Probable Cost: \$1,104,700

Activities Required by Permit or Regulation

latan 1 Intake Removal \$395,036

Activities Required by Permit or Regulation: \$395,036

Iatan 1 Retirement

ID	Task Name	Cost
0	Iatan 1 Retirement	\$841,676.55
1	Iatan 1 Retirement	\$841,676.55
2	Pre-Engineering	\$106,967.52
3	Permit review and engineering analysis, establish isolation points, and confirm fuel yard inventory has been reduced to zero tons.	\$0.00
4	KCL&L Overhead Costs	\$122,254.08
5	KCP&L Retirement Manager	\$122,254.08
6	Equipment Rentals	\$41,004.90
7	Vacuum truck	\$41,004.90
8	Retirement	\$543,267.65
9	Electrical	\$20,553.92
10	Medium and Low Voltage Draw out Switchgear	\$2,903.52
11	De-energize all buses at the source.	\$483.92
12	Open all circuit breakers.	\$483.92
13	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$483.92
14	Verify that the closing/tripping springs are discharged.	\$483.92
15	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	\$967.84
16	Motor Control Centers	\$1,935.68
17	De-energize all buses at the source.	\$483.92
18	Open all circuit breakers and disconnect switches.	\$483.92
19	Remove all fuses in control circuits.	\$967.84
20	Low-voltage Switchboards and Panelboards	\$967.84
21	De-energize all buses at the source.	\$483.92
22	Open all circuit breakers and disconnect switches.	\$483.92
23	Oil-Filled Power Transformers	\$6,072.32
24	De-energize all transformer primaries and verify that the secondary is de-energized.	\$967.84
25	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	\$967.84
26	Drain and dispose of oil.	\$2,867.52
27	Clean up and dispose of oil on surface areas around the transformers on in containment pits.	\$1,269.12
28	Dry-type Power Transformers	\$1,935.68
29	De-energize all transformer primaries and verify that the secondary is de-energized.	\$967.84
30	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	\$967.84
31	Motors	\$6,738.88
32	De-energize all primary power at the source.	\$1,935.68

Iatan 1 Retirement

ID	Task Name	Cost
33	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	\$1,935.68
34	Drian lube oil system (if applicable) and dispoe of oil.	\$2,867.52
35	Coal Handling	\$30,905.36
36	Empty all transfer hoppers.	\$1,853.84
37	Burn out coal silos.	\$1,834.56
38	Confirm all fuel lines, conveyors and trippers are clear of fuel.	\$1,834.56
39	Perform cleaning of the coal handling equipment to assure that all coal and coal dust has been removed from site.	\$25,382.40
40	Fuel Oil and Igniter System	\$2,751.84
41	Drain fuel oil system	\$2,751.84
42	Waste Oil System	\$1,834.56
43	Drain all waste oil systems	\$1,834.56
44	Boiler Chemical Feed	\$1,834.56
45	Drain all chemical feed tanks.	\$1,834.56
46	Boiler	\$30,927.60
47	Open boiler doors.	\$955.84
48	Gas side - perform cleaning of the boiler and bottom ash system.	\$25,382.40
49	Drain boiler, drum, downcomers and headers.	\$917.28
50	Open drum doors.	\$955.84
51	Drain and clean the submerged flight conveyor system.	\$2,716.24
52	Stack and Ductwork	\$344,145.25
53	Open ductwork doors.	\$955.84
54	Perform extensive cleaning of the ductwork.	\$12,691.20
55	Place cap over stack opening to keep moisture out.	\$330,498.21
56	Condensate and Feedwater Piping	\$1,834.56
57	Drain water from the system.	\$917.28
58	Leave open vents and drains.	\$917.28
59	Feedwater heaters	\$2,751.84
60	Drain feedwater heaters	\$917.28
61	Leave open vents and drains.	\$1,834.56
62	Deaerator and Deaerator Storage Tank	\$1,834.56
63	Drain Deaerator and Storage	\$917.28
64	Leave open vents and drains.	\$917.28
65	Baghouse	\$18,919.84
66	Multiple cleaning cycles for filter bags.	\$2,751.84
67	Open all vent and drain lines on bag cleaning air and control air lines. Leave in open position or remove vent valves.	\$917.28
68	Remove all filter bags and cages.	\$955.84
69	Clear hoppers of all ash	\$3,103.68
70	Mechanically secure all compartment dampers and hopper outlet valves in open position.	\$955.84
71	Disconnect ash transport piping and washdown baghouse hoppers and interior of casing.	\$1,571.12

Iatan 1 Retirement

ID	Task Name	Cost
72	Install bird screens across hopper ash outlet and ash line flanges.	\$955.84
73	Padlock or tack weld all hopper doors shut. (note: if ash hopper doors are indoors, they could be removed and the opening covered with bird screens.)	\$955.84
74	If walk-in plenum, padlock or tack weld all outlet plenum doors and compartment ventilation dampers shut.	\$955.84
75	If top-door plenum, close and secure top doors and remove/disable door lift hoist.	\$1,873.12
76	If top-door plenum, establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in penthouse enclosure.	\$1,020.08
77	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$2,903.52
78	Wet FGD system	\$26,222.88
79	Multiple mist eliminator wash cycles. Remove ME's from absorber.	\$2,331.76
80	Drain and flush all slurry and reclaim water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	\$1,873.12
81	Drain and wash out the reaction tank, reagent storage tank, recycle water tank, absorber blowdown tank, etc.	\$5,183.28
82	Leave all tank drain valves open or remove. Install bird screens across openings.	\$1,911.68
83	Drain all makeup and mist eliminator water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	\$2,828.96
84	Mechanically secure all flue gas isolation dampers in open position or remove damper blades.	\$1,911.68
85	Remove solids from all inlet and outlet ductwork as necessary	\$2,538.24
86	Open all vent station air and control air lines. Leave in open position or remove vent valves	\$1,873.12
87	Padlock or tack weld all access doors to modules and ductwork shut.	\$1,911.68
88	Remove access doors to open-top tanks.	\$955.84
89	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$2,903.52
90	FGD Reagent Preparation-Limestone wet Scrubber	\$11,270.00
91	Remove limestone from day bins.	\$1,551.84
92	Removed cartridges/bags from bin vent filters	\$1,551.84
93	Padlock or tack weld all bin access doors shut. (note: if doors are indoors, they could be removed and the opening covered with bird screens.)	\$955.84
94	Remove bin discharge isolation valve and install bird screen.	\$477.92
95	Thoroughly wash and drain mills	\$1,551.84

Iatan 1 Retirement

ID	Task Name	Cost
96	Remove balls from any ball mills	\$1,269.12
97	Padlock or tack weld mill access doors closed.	\$955.84
98	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	\$1,020.08
99	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$1,935.68
100	FGD Byproduct Dewatering - Hydrocyclones and Vacuum Filters	\$8,032.96
101	Wash vacuum filter belt and remove all accumulated solids	\$2,538.24
102	Wash out vacuum receiver, remove pressure relief valve and access door. Install bird screens.	\$1,571.12
103	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	\$1,020.08
104	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$2,903.52
105	SCR	\$11,098.96
106	Vacuum fly ash from catalyst.	\$2,538.24
107	Remove catalyst of salvage or disposal.	\$3,180.80
108	Padlock or tack weld access doors shut.	\$955.84
109	Remove ammonia from storage tank for resale.	\$775.92
110	Wash out and drain storage tank and supply piping.	\$775.92
111	Vent storage tank and all piping. Leave vent and drain valves open or remove. Install bird screens.	\$936.56
112	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	\$1,935.68
113	Turbine(s) and Condenser	\$5,715.76
114	Drain hotwell and leave doors open.	\$936.56
115	Open main turbine doors.	\$955.84
116	Open bfp turbine doors.	\$955.84
117	Remove lube oil.	\$2,867.52
118	Generator	\$6,618.48
119	Verify that generator circuit breaker is open and racked out or that high-voltage disconnect switch on substation side of GSU transformer is locked in the open position.	\$483.92
120	Verify that generator field breaker or contactor (if applicable) is open.	\$483.92
121	De-energize power supplies to generator excitation system at the source.	\$483.92
122	De-energize AC and DC power supplies to generator and exciter space heaters, cooling equipment, controls, lighting, etc. at the source and open circuit breakers or remove fuses at the generator and exciter.	\$483.92
123	Drain generator and exciter cooling water systems (if applicable).	\$936.56

Iatan 1 Retirement

ID	Task Name	Cost
124	Disconnect and remove hydrogen gas tanks and purge generator hydrogen system.	\$1,834.56
125	Disconnect and remove fire protection system gas/foam tanks and purge fire protection system.	\$1,911.68
126	Circulation Water and Turbine Cooling Water System	\$3,707.68
127	Drain.	\$1,834.56
128	Open water box doors.	\$955.84
129	Drain any circulating water chemical feed tanks.	\$917.28
130	Compressed Air System	\$2,945.44
131	Open vents and drains.	\$917.28
132	Remove desiccant from desiccant dryers.	\$2,028.16
133	Auxiliary Steam System	\$1,834.56
134	Drain water from system.	\$917.28
135	Remove aux boiler chemicals.	\$917.28
136	Auxiliary Cooling Water System	\$917.28
137	Drain water from system.	\$917.28
138	Condenser Air Extraction and Waterbox Priming System	\$917.28
139	Drain water from system.	\$917.28
140	Building Heating System	\$917.28
141	Drain water from system.	\$917.28
142	Battery System	\$4,775.20
143	De-energize all battery chargers from the source.	\$483.92
144	Open all AC and DC circuit breakers and/or fused switches on battery chargers and disconnect cables from batteries.	\$483.92
145	Remove and dispose of battery electrolyte.	\$1,903.68
146	Remove and dispose of battery cells.	\$1,269.12
147	Clean up and dispose of electrolyte on surface areas around batteries.	\$634.56
148	Post Retirement Activities	\$28,182.40
149	Post Retirement Activities	\$28,182.40

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
0	Iatan 1 Retirement	292 days						
1	Iatan 1 Retirement	292 days						
2	Pre-Engineering	66 days						
3	Permit review and engineering analysis, establish isolation points, and confirm fuel yard inventory has been reduced to zero tons.	66 days						
4	KCL&L Overhead Costs	186 days						
5	KCP&L Retirement Manager	186 days						
6	Equipment Rentals	186 days						
7	Vacuum truck	186 days						
8	Retirement	186 days						
9	Electrical	22 days						
10	Medium and Low Voltage Draw out Switchgear	3 days						
11	De-energize all buses at the source.	0.5 days						
12	Open all circuit breakers.	0.5 days						
13	Rack all circuit breakers into the fully withdrawn, disconnected position.	0.5 days						
14	Verify that the closing/tripping springs are discharged.	0.5 days						
15	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	1 day						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
16	Motor Control Centers	2 days						
17	De-energize all buses at the source.	0.5 days						
18	Open all circuit breakers and disconnect switches.	0.5 days						
19	Remove all fuses in control circuits.	1 day						
20	Low-voltage Switchboards and Panelboards	1 day						
21	De-energize all buses at the source.	0.5 days						
22	Open all circuit breakers and disconnect switches.	0.5 days						
23	Oil-Filled Power Transformers	7 days						
24	De-energize all transformer primaries and verify that the secondary is de-energized.	1 day						
25	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	1 day						
26	Drain and dispose of oil.	3 days						
27	Clean up and dispose of oil on surface areas around the transformers on in containment pits.	2 days						
28	Dry-type Power Transformers	2 days						
29	De-energize all transformer primaries and verify that the secondary is de-energized.	1 day						
30	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	1 day						
31	Motors	7 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
32	De-energize all primary power at the source.	2 days						
33	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	2 days						
34	Drian lube oil system (if applicable) and dispoe of oil.	3 days						
35	Coal Handling	25 days						
36	Empty all transfer hoppers.	1 day						
37	Burn out coal silos.	2 days						
38	Confirm all fuel lines, conveyors and trippers are clear of fuel.	2 days						
39	Perform cleaning of the coal handling equipment to assure that all coal and coal dust has been removed from site.	20 days						
40	Fuel Oil and Igniter System	3 days						
41	Drain fuel oil system	3 days						
42	Waste Oil System	2 days						
43	Drain all waste oil systems	2 days						
44	Boiler Chemical Feed	2 days						
45	Drain all chemical feed tanks.	2 days						
46	Boiler	27 days						
47	Open boiler doors.	1 day						
48	Gas side - perform cleaning of the boiler and bottom ash system.	20 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
49	Drain boiler, drum, downcomers and headers.	1 day						
50	Open drum doors.	1 day						
51	Drain and clean the submerged flight conveyor system.	5 days						
52	Stack and Ductwork	12 days						
53	Open ductwork doors.	1 day						
54	Perform extensive cleaning of the ductwork.	10 days						
55	Place cap over stack opening to keep moisture out.	1 day						
56	Condensate and Feedwater Piping	2 days						
57	Drain water from the system.	1 day						
58	Leave open vents and drains.	1 day						
59	Feedwater heaters	3 days						
60	Drain feedwater heaters	1 day						
61	Leave open vents and drains.	2 days						
62	Deaerator and Deaerator Storage Tank	2 days						
63	Drain Deaerator and Storage	1 day						
64	Leave open vents and drains.	1 day						
65	Baghouse	16 days						
66	Multiple cleaning cycles for filter bags.	3 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
67	Open all vent and drain lines on bag cleaning air and control air lines. Leave in open position or remove vent valves.	1 day						
68	Remove all filter bags and cages.	1 day						
69	Clear hoppers of all ash	4 days						
70	Mechanically secure all compartment dampers and hopper outlet valves in open position.	1 day						
71	Disconnect ash transport piping and washdown baghouse hoppers and interior of casing.	1 day						
72	Install bird screens across hopper ash outlet and ash line flanges.	1 day						
73	Padlock or tack weld all hopper doors shut. (note: if ash hopper doors are indoors, they could be removed and the opening covered with bird screens.)	1 day						
74	If walk-in plenum, padlock or tack weld all outlet plenum doors and compartment ventilation dampers shut.	1 day						
75	If top-door plenum, close and secure top doors and remove/disable door lift hoist.	2 days						
76	If top-door plenum, establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in penthouse enclosure.	1 day						
77	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days						
78	Wet FGD system	19 days						
79	Multiple mist eliminator wash cycles. Remove ME's from absorber.	3 days						
80	Drain and flush all slurry and reclaim water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	2 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
81	Drain and wash out the reaction tank, reagent storage tank, recycle water tank, absorber blowdown tank, etc.	3 days						
82	Leave all tank drain valves open or remove. Install bird screens across openings.	2 days						
83	Drain all makeup and mist eliminator water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.	2 days						
84	Mechanically secure all flue gas isolation dampers in open position or remove damper blades.	2 days						
85	Remove solids from all inlet and outlet ductwork as necessary	2 days						
86	Open all vent station air and control air lines. Leave in open position or remove vent valves	2 days						
87	Padlock or tack weld all access doors to modules and ductwork shut.	2 days						
88	Remove access doors to open-top tanks.	1 day						
89	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days						
90	FGD Reagent Preparation-Limestone wet Scrubber	9 days						
91	Remove limestone from day bins.	2 days						
92	Removed cartridges/bags from bin vent filters	2 days						
93	Padlock or tack weld all bin access doors shut. (note: if doors are indoors, they could be removed and the opening covered with bird screens.)	1 day						
94	Remove bin discharge isolation valve and install bird screen.	1 day						
95	Thoroughly wash and drain mills	2 days						
96	Remove balls from any ball mills	2 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
97	Padlock or tack weld mill access doors closed.	1 day						
98	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	1 day						
99	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	2 days						
100	FGD Byproduct Dewatering - Hydrocyclones and Vacuum Filters	5 days						
101	Wash vacuum filter belt and remove all accumulated solids	2 days						
102	Wash out vacuum receiver, remove pressure relief valve and access door. Install bird screens.	1 day						
103	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.	1 day						
104	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	3 days						
105	SCR	6 days						
106	Vacuum fly ash from catalyst.	4 days						
107	Remove catalyst of salvage or disposal.	4 days						
108	Padlock or tack weld access doors shut.	1 day						
109	Remove ammonia from storage tank for resale.	1 day						
110	Wash out and drain storage tank and supply piping.	1 day						
111	Vent storage tank and all piping. Leave vent and drain valves open or remove. Install bird screens.	1 day						
112	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	2 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
113	Turbine(s) and Condenser	6 days						
114	Drain hotwell and leave doors open.	1 day						
115	Open main turbine doors.	1 day						
116	Open bfp turbine doors.	1 day						
117	Remove lube oil.	3 days						
118	Generator	7 days						
119	Verify that generator circuit breaker is open and racked out or that high-voltage disconnect switch on substation side of GSU transformer is locked in the open position.	0.5 days						
120	Verify that generator field breaker or contactor (if applicable) is open.	0.5 days						
121	De-energize power supplies to generator excitation system at the source.	0.5 days						
122	De-energize AC and DC power supplies to generator and exciter space heaters, cooling equipment, controls, lighting, etc. at the source and open circuit breakers or remove fuses at the generator and exciter.	0.5 days						
123	Drain generator and exciter cooling water systems (if applicable).	1 day						
124	Disconnect and remove hydrogen gas tanks and purge generator hydrogen system.	2 days						
125	Disconnect and remove fire protection system gas/foam tanks and purge fire protection system.	2 days						
126	Circulation Water and Turbine Cooling Water System	3 days						
127	Drain.	2 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
128	Open water box doors.	1 day						
129	Drain any circulating water chemical feed tanks.	1 day						
130	Compressed Air System	3 days						
131	Open vents and drains.	1 day						
132	Remove desiccant from desiccant dryers.	2 days						
133	Auxiliary Steam System	2 days						
134	Drain water from system.	1 day						
135	Remove aux boiler chemicals.	1 day						
136	Auxiliary Cooling Water System	1 day						
137	Drain water from system.	1 day						
138	Condenser Air Extraction and Waterbox Priming System	1 day						
139	Drain water from system.	1 day						
140	Building Heating System	1 day						
141	Drain water from system.	1 day						
142	Battery System	7 days						
143	De-energize all battery chargers from the source.	0.5 days						
144	Open all AC and DC circuit breakers and/or fused switches on battery chargers and disconnect cables from batteries.	0.5 days						

ID	Task Name	Duration	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
145	Remove and dispose of battery electrolyte.	3 days						
146	Remove and dispose of battery cells.	2 days						
147	Clean up and dispose of electrolyte on surface areas around batteries.	1 day						
148	Post Retirement Activities	40 days						
149	Post Retirement Activities	40 days						

Iatan 1 Dismantlement

Owner Costs

Pre-Dismantlement Activities	\$1,104,559	
Overhead During Dismantlement	\$2,004,866	
Post-Dismantlement Activities	\$69,510	
Owner Costs Total		\$3,178,936

Demolition General Contractor (DGC) Costs

Site Management		\$1,331,047
Equipment Rental		\$2,280,632
Consumables		\$2,489,572
Scrap Crew(s)		\$2,220,576
Dismantlement		\$5,453,934
DGC Insurance	2.00%	\$275,515
Contingency/Profit	15.00%	\$2,107,691
Performance Bond	2.00%	\$323,179.36
Contractor Costs Total:		\$16,482,148

Total:		\$19,661,083
Owner Internal Costs:	5.00%	\$983,054
Owner Contingency:	25.00%	\$5,161,034
Iatan Unit 1 Dismantlement Opinion of Probable Cost:		\$25,805,172

12-0027 Iatan Demolition

ID	Task Name	Cost
1	Iatan Unit 1 Dismantlement	\$13,372,345.33
2	Pre-Demolition Activities	\$1,104,558.96
3	Detailed Planning & Hire Owner's Engineer	\$110,802.72
4	Detailed Site Characterization Study	\$783,536.00
5	Hire Demolition General Contractor	\$198,647.04
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20
7	Demolition Contractor Mobilizes on Site	\$0.00
8	KCP&L Overhead during Dismantlement	\$2,004,866.33
9	KCP&L Project Manager	\$282,630.38
10	KCP&L Administrative Support	\$104,541.59
11	KCP&L Engineer	\$464,606.36
12	Owners Engineer Project Manager	\$141,728.00
13	Owners Engineer - Engineer	\$1,011,360.00
14	Demolition Contractor Overhead during Dismantlement	\$969,151.12
15	Demolition Contractor Project Manager	\$274,202.38
16	Demolition Contractor Safety Manager	\$244,171.18
17	Demolition Contractor Superintendent	\$450,777.57
18	Demolition Contractor Equipment Rental Costs	\$1,633,380.67
19	Equipment Rental	\$1,633,380.67
20	Demolition Contractor Consumables	\$1,629,562.40
21	Consumables	\$1,629,562.40
22	Scrap Crew	\$1,591,412.80
23	Crew to Handle Scrap Material(s)	\$1,591,412.80
24	Dismantlement	\$4,369,902.64
25	Phase 1 Demolition	\$1,075,134.32
26	Phase 1 Electrical Demolition	\$439,040.24
27	Electrical Demolition of Phase 1 Equipment	\$439,040.24
28	Condensate System	\$109,178.32
29	Condensate Pumps	\$3,700.96
30	Condensate Transfer Pumps	\$1,850.48
31	Cycle Make-Up Pump	\$1,850.48
32	Steam Packing Exhauster and Blower	\$3,700.96
33	Low Pressure Heaters (except the condenser neck heat exchangers)	\$55,514.40
34	Deaerator	\$14,803.84
35	Deaerator Storage Tank	\$9,252.40
36	Condensate Piping	\$18,504.80
37	Boiler Feed System	\$70,061.52
38	Boiler Feed Pump Turbine and Exhaust	\$14,547.12
39	Boiler Feed Pump	\$18,504.80
40	High Pressure Heaters	\$37,009.60
41	Critical Piping	\$83,271.60
42	Main Steam Piping	\$27,757.20
43	Cold Reheat Piping	\$27,757.20
44	Hot Reheat Piping	\$27,757.20
45	Extraction Steam System	\$18,504.80
46	Piping	\$18,504.80
47	Heater Drips	\$14,803.84
48	Piping	\$14,803.84
49	Auxiliary Steam	\$25,906.72

12-0027 Iatan Demolition

ID	Task Name	Cost
50	Auxiliary Boilers and Auxiliary Skids	\$9,252.40
51	Auxiliary Steam Piping	\$16,654.32
52	Circulating Water (plant side)	\$9,252.40
53	Waterboxes	\$9,252.40
54	Bearing Cooling Water	\$31,458.16
55	Bearing Cooling Water Pumps	\$3,700.96
56	Bearing Cooling Water Heat Exchanger	\$9,252.40
57	Bearing Cooling Water Piping	\$18,504.80
58	Auxiliary Cooling Water	\$29,607.68
59	Auxiliary Cooling Water Heat Exchanger	\$5,551.44
60	Auxiliary Cooling Water Pumps	\$5,551.44
61	Auxiliary Cooling Water Piping	\$18,504.80
62	Service Water	\$9,252.40
63	Service Water Piping	\$9,252.40
64	Fuel Oil System (plant side)	\$42,561.04
65	Igniter Fuel Oil Pumps	\$5,551.44
66	Igniter Fuel Oil and Atomizing Air Piping	\$9,252.40
67	Igniters	\$27,757.20
68	Waste Oil System	\$12,953.36
69	Waste Oil Tank	\$3,700.96
70	Waste Oil Transfer Pump	\$3,700.96
71	Waste Oil Piping	\$5,551.44
72	Air Preheat System	\$10,576.08
73	Air Preheat Pumps	\$3,700.96
74	Air Preheat Piping	\$6,875.12
75	Condenser Air Extraction System	\$11,102.88
76	Vacuum Pumps	\$7,401.92
77	Extraction Piping	\$3,700.96
78	Turbine Seals and Drains	\$12,953.36
79	Piping	\$12,953.36
80	Turbine Lube Oil System	\$21,038.32
81	Turbine Lube Oil Tank	\$11,785.92
82	Turbine Lube Oil Pumps	\$7,401.92
83	Turbine Oil Mist Eliminator	\$1,850.48
84	Generator Auxiliary Systems	\$33,308.64
85	Hydrogen Cooler Skid and Piping	\$9,252.40
86	Stator Cooling Water Skid and Piping	\$9,252.40
87	Isophase Bus Duct	\$7,401.92
88	Exciter Heat Exchanger	\$3,700.96
89	EHC Coolers	\$3,700.96
90	Chemical Feed Systems	\$19,942.32
91	Tanks	\$8,839.44
92	Pumps	\$5,551.44
93	Piping	\$5,551.44
94	Sampling Systems	\$6,647.44
95	Field Mounted Heat Exchangers	\$3,700.96
96	Piping	\$2,946.48
97	Building Heating Systems	\$13,750.24
98	Steam Unit Heaters	\$9,821.60

12-0027 Iatan Demolition

ID	Task Name	Cost
99	Steam Piping	\$3,928.64
100	Compressed Air System	\$27,757.20
101	Air Compressors	\$7,401.92
102	Air Drying Equipment	\$5,551.44
103	Air Reciever Tanks	\$5,551.44
104	Compressed Air Piping	\$9,252.40
105	Miscellaneous Equipment	\$22,205.76
106	Miscellaneous Equipment (including Fire Protection)	\$22,205.76
107	Phase 2 Demolition	\$3,025,879.52
108	Precipitator	\$111,028.80
109	Remove Precipitator	\$111,028.80
110	Boiler Equipment	\$756,701.12
111	Fans	\$65,336.00
112	Pulverizers	\$74,019.20
113	Bottom Ash	\$16,995.84
114	Air Heater	\$207,253.76
115	Steam Drum	\$92,524.00
116	Coal Bunkers	\$74,019.20
117	Coal Feeders	\$48,112.48
118	Soot Blowers	\$52,608.00
119	Ductwork	\$103,626.88
120	Miscellaneous Other	\$22,205.76
121	Boiler Removal	\$414,507.52
122	Furnace	\$236,861.44
123	Back Pass	\$177,646.08
124	Boiler Steel Framing	\$747,593.92
125	Hanger Girders at Top	\$111,028.80
126	All Other Framing	\$347,890.24
127	Bracing and Girts	\$170,244.16
128	Columns	\$118,430.72
129	Boiler Foundations	\$133,234.56
130	Equipment Foundation Demolition to Grade	\$133,234.56
131	Remove Turbine	\$862,813.60
132	Remove HP Turbine	\$27,188.00
133	Remove IP Turbine	\$27,188.00
134	Remove LP Turbine	\$27,188.00
135	Remove Generator	\$54,376.00
136	Remove Condenser Neck Heat Exchanger	\$27,188.00
137	Remove Condenser	\$27,188.00
138	Remove Misc. Auxiliary Turbine Equipment	\$40,782.00
139	Turbine Pedestal Demolition to Grade	\$277,317.60
140	Top Slab and Beams	\$108,752.00
141	Columns	\$168,565.60
142	Remove Turbine Building	\$354,398.00
143	Siding and Rooding	\$112,340.00
144	All Framing Elevations	\$163,128.00
145	Bracing and Girts	\$54,376.00
146	Columns	\$24,554.00
147	Phase 3 Yard Demolition	\$268,888.80

12-0027 Iatan Demolition

ID	Task Name	Cost
148	Circulating Water Pipe (yard)	\$74,019.20
149	Excavate Circulating Water Pipe	\$18,504.80
150	Collapse Circulating Water Pipe	\$37,009.60
151	Backfill Circulating Water Pipe	\$18,504.80
152	Remove Ash Handling Equipment and Piping	\$37,009.60
153	Remove Fly-Ash Silo and Scale	\$27,757.20
154	Remove Ash Piping and Misc. Equipment	\$9,252.40
155	Remove Laydown Equipment and Warehoused Equipment	\$74,019.20
156	Remove Unit 1 Condensate Storage Tank and Pump	\$9,821.60
157	Remove Unit 1 Make-Up Water Storage Tank	\$18,504.80
158	Remove Unit 1 Water Treatment Equipment and Building	\$55,514.40
159	Post Dismantlement Activities	\$69,510.40
160	Post Dismantlement Activities	\$69,510.40

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
1	Iatan Unit 1 Dismantlement																			
2	Pre-Demolition Activities	265 days																		
3	Detailed Planning & Hire Owner's Engineer	3 mons																		
4	Detailed Site Characterization Study	130 days																		
5	Hire Demolition General Contractor	3 mons																		
6	KCP&L Prepares Unit for Dismantlement	2 wks																		
7	Demolition Contractor Mobilizes on Site	5 days																		
8	KCP&L Overhead during Dismantlement	430 days																		
9	KCP&L Project Manager	430 days																		
10	KCP&L Administrative Support	430 days																		
11	KCP&L Engineer	430 days																		
12	Owners Engineer Project Manager	430 days																		
13	Owners Engineer - Engineer	430 days																		
14	Demoliton Contractor Overhead during Dismantlement	430 days																		
15	Demolition Contractor Project Manager	430 days																		
16	Demolition Contractor Safety Manager	430 days																		
17	Demolition Contractor Superintendent	430 days																		

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
18	Demolition Contractor Equipment Rental Costs	430 days																		
19	Equipment Rental	430 days																		
20	Demolition Contractor Consumables	430 days																		
21	Consumables	430 days																		
22	Scrap Crew	430 days																		
23	Crew to Handle Scrap Material(s)	430 days																		
24	Dismantlement	430 days?																		
25	Phase 1 Demolition	191 days?																		
26	Phase 1 Electrical Demolition	191 days																		
27	Electrical Demolition of Phase 1 Equipment	191 days																		
28	Condensate System	30 days																		
29	Condensate Pumps	2 days																		
30	Condensate Transfer Pumps	1 day																		
31	Cycle Make-Up Pump	1 day																		
32	Steam Packing Exhauster and Blower	2 days																		
33	Low Pressure Heaters (except the condenser neck heat exchangers)	30 days																		
34	Deaerator	8 days																		

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
35	Deaerator Storage Tank	5 days																		
36	Condensate Piping	10 days																		
37	Boiler Feed System	37 days																		
38	Boiler Feed Pump Turbine and Exhaust	7 days																		
39	Boiler Feed Pump	10 days																		
40	High Pressure Heaters	20 days																		
41	Critical Piping	45 days																		
42	Main Steam Piping	15 days																		
43	Cold Reheat Piping	15 days																		
44	Hot Reheat Piping	15 days																		
45	Extraction Steam System	10 days																		
46	Piping	10 days																		
47	Heater Drips	8 days																		
48	Piping	8 days																		
49	Auxiliary Steam	14 days																		
50	Auxiliary Boilers and Auxiliary Skids	5 days																		
51	Auxiliary Steam Piping	9 days																		

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
52	Circulating Water (plant side)	5 days																		
53	Waterboxes	5 days																		
54	Bearing Cooling Water	17 days																		
55	Bearing Cooling Water Pumps	2 days																		
56	Bearing Cooling Water Heat Exchanger	5 days																		
57	Bearing Cooling Water Piping	10 days																		
58	Auxiliary Cooling Water	16 days																		
59	Auxiliary Cooling Water Heat Exchanger	3 days																		
60	Auxiliary Cooling Water Pumps	3 days																		
61	Auxiliary Cooling Water Piping	10 days																		
62	Service Water	5 days																		
63	Service Water Piping	5 days																		
64	Fuel Oil System (plant side)	120 days																		
65	Igniter Fuel Oil Pumps	3 days																		
66	Igniter Fuel Oil and Atomizing Air Piping	5 days																		
67	Igniters	15 days																		
68	Waste Oil System	7 days																		

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
69	Waste Oil Tank	2 days																		
70	Waste Oil Transfer Pump	2 days																		
71	Waste Oil Piping	3 days																		
72	Air Preheat System	9 days																		
73	Air Preheat Pumps	2 days																		
74	Air Preheat Piping	7 days																		
75	Condenser Air Extraction System	6 days																		
76	Vacuum Pumps	4 days																		
77	Extraction Piping	2 days																		
78	Turbine Seals and Drains	7 days																		
79	Piping	7 days																		
80	Turbine Lube Oil System	17 days?																		
81	Turbine Lube Oil Tank	12 days																		
82	Turbine Lube Oil Pumps	4 days																		
83	Turbine Oil Mist Eliminator	1 day?																		
84	Generator Auxiliary Systems	18 days																		
85	Hydrogen Cooler Skid and Piping	5 days																		

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
86	Stator Cooling Water Skid and Piping	5 days																		
87	Isophase Bus Duct	4 days																		
88	Exciter Heat Exchanger	2 days																		
89	EHC Coolers	2 days																		
90	Chemical Feed Systems	15 days																		
91	Tanks	9 days																		
92	Pumps	3 days																		
93	Piping	3 days																		
94	Sampling Systems	5 days																		
95	Field Mounted Heat Exchangers	2 days																		
96	Piping	3 days																		
97	Building Heating Systems	14 days																		
98	Steam Unit Heaters	10 days																		
99	Steam Piping	4 days																		
100	Compressed Air System	15 days																		
101	Air Compressors	4 days																		
102	Air Drying Equipment	3 days																		

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
103	Air Reciever Tanks	3 days																		
104	Compressed Air Piping	5 days																		
105	Miscellaneous Equipment	12 days																		
106	Miscellaneous Equipment (including Fire Protection)	12 days																		
107	Phase 2 Demolition	333 days																		
108	Precipitator	30 days																		
109	Remove Precipitator	30 days																		
110	Boiler Equipment	134 days																		
111	Fans	20 days																		
112	Pulverizers	20 days																		
113	Bottom Ash	6 days																		
114	Air Heater	56 days																		
115	Steam Drum	25 days																		
116	Coal Bunkers	20 days																		
117	Coal Feeders	13 days																		
118	Soot Blowers	16 days																		
119	Ductwork	28 days																		

ID	Task Name	Duration	1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
			Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
154	Remove Ash Piping and Misc. Equipment	5 days																		
155	Remove Laydown Equipment and Warehoused Equipment	40 days																		
156	Remove Unit 1 Condensate Storage Tank and Pump	10 days																		
157	Remove Unit 1 Make-Up Water Storage Tank	10 days																		
158	Remove Unit 1 Water Treatment Equipment and Building	30 days																		
159	Post Dismantlement Activities	40 days																		
160	Post Dismantlement Activities	40 days																		

Iatan AQCS

ID	Task Name	Cost
1	Iatan Unit 1 AQCS Dismantlement	\$3,582,351.80
2	Common Removal Overheads	\$361,896.00
3	Added Overhead Staff for Common Removals	\$361,896.00
4	Scrap Crew	\$629,163.20
5	Crew(s) to Handle Scrap Material	\$629,163.20
6	Demolition Contractor Consummables	\$860,009.60
7	Consummables	\$860,009.60
8	Demolition Contractor Equipment Rental Costs	\$647,251.20
9	Equipment Rental	\$647,251.20
10	Dismantlement	\$1,084,031.80
11	Initial Structural	\$134,621.84
12	Remove SCR box & ductwork lagging & insulation	\$18,504.80
13	Remove SCR expansion joints	\$11,102.88
14	Remove ductwork lagging & insulation	\$8,220.00
15	Remove ductwork expansion joints	\$18,504.80
16	Remove ductwork access platforms & ladders	\$18,504.80
17	Remove FF lagging, insulation, wall panel, & roof panels	\$37,009.60
18	Remove ID fan lagging & insulation	\$7,401.92
19	Removal all HVAC equipment located on FGD Bldg roof	\$5,551.44
20	Remove FGD Bldg lagging, insulation, wall panel, & roof	\$9,821.60
21	General Electric	\$259,746.32
22	Remove breakers serving all FF equipment	\$1,149.32
23	Remove breakers serving all FGD equipment	\$2,298.64
24	Remove breakers serving all ID fan equipment	\$1,149.32
25	Remove breakers serving all SCR equipment	\$1,149.32
26	Remove breakers serving all comp air equipment	\$1,149.32
27	Remove all ductwork primary instrumentation, controls & assoc'd cables, and cc	\$11,493.20
28	Remove all FGD primary instrumentation, controls & assoc'd cables, and conduit	\$34,479.60
29	Remove all FF primary instrumentation, controls & assoc'd cables, and conduit	\$22,986.40
30	Remove SCR primary instrumentation, controls, & assoc'd cable & conduit	\$11,493.20
31	Remove NH3 supply primary instrumentation, controls, & assoc'd cable & condu	\$11,493.20
32	Remove wiring and conduit serving FGD equipment, HVAC, lighting and conveni	\$45,972.80
33	Remove wiring and conduit serving FF equipment, HVAC, lighting and convenien	\$22,986.40
34	Remove wiring and conduit serving the ID fans and assoc'd equipment	\$27,583.68
35	Remove wiring & conduit serving SCR vaporization & injection equipment	\$6,895.92
36	Remove wiring & conduit serving compressed air equipment	\$6,895.92
37	Remove wiring & conduit serving comp air equipment	\$4,597.28
38	Remove electrical control cabinets & switchgear	\$22,986.40
39	Demolish electrical control room	\$22,986.40
40	FGD System	\$207,758.20
41	Remove ductwork between FGD module and chimney	\$8,220.00
42	Remove support steel and access platforms between FGD and chimney	\$5,551.44
43	Remove FGD elevator	\$9,252.40
44	Remove all mechanical equipment, pumps, and motors and tanks in FGD Bldg	\$37,009.60
45	Remove oxi air blowers	\$925.24
46	Remove all FGD piping & valves other than recirc piping	\$27,757.20
47	Remove ox air lines	\$5,551.44
48	Remove FGD MEs panels	\$9,864.00
49	Remove FGD outlet duct and top cone	\$5,551.44

Iatan AQCS

ID	Task Name	Cost
50	Remove FGD internal wash ME piping and ME supports	\$5,551.44
51	Remove FGD internal spray header piping	\$9,252.40
52	Remove FGD support steel, access provisions, stair tower, and recirc piping from	\$37,009.60
53	Remove FGD module walls	\$18,504.80
54	Remove FGD inlet duct	\$5,551.44
55	Remove FGD reaction tank walls and floor	\$18,504.80
56	Remove FGD Bldg trench floor grating	\$3,700.96
57	ID Fans	\$81,421.12
58	Remove ductwork between ID fan outlets and FGD module	\$12,953.36
59	Remove support steel and access platforms between ID fan outlets and FGD mo	\$5,551.44
60	Remove ductwork between FF outlet and ID fan inlets	\$12,953.36
61	Remove support steel between FF outlet and ID fan inlets	\$5,551.44
62	Removed ID fan isolation dampers	\$14,803.84
63	Removed ID fan drive motor	\$7,401.92
64	Remove ID fan seal air system	\$7,401.92
65	Remove fan casing & rotor	\$14,803.84
66	Fabric Filters	\$324,614.64
67	Remove ductwork between air heater and FF	\$9,252.40
68	Remove ductwork structural steel between AH and FF	\$5,551.44
69	Remove FF penthouse hoists and trolleys	\$7,401.92
70	Remove FF hopper heaters, HVAC, lighting and convenience outlets	\$22,986.40
71	Remove FF ash handling piping	\$27,757.20
72	Remove compress air blower, dryers, and receivers, piping & valves	\$18,504.80
73	Remove FF penthouse roof panels supporting steel	\$18,504.80
74	Remove FF compartment roof hatches	\$5,551.44
75	Remove FF compartment pulse air piping	\$5,551.44
76	Remove FF compartment pulse air and compressed air supply piping	\$11,102.88
77	Remove FF outlet poppet damper operators	\$12,953.36
78	Remove FF bags & cages	\$25,906.72
79	Remove FF bag support sheets	\$25,906.72
80	Remove remaining FF roof	\$7,401.92
81	Remove FF outlet dampers	\$7,401.92
82	Remove ductwork between air heater and FF	\$9,252.40
83	Remove FF wall panels to hopper level	\$51,813.44
84	Remove ductwork structural steel between AH and FF	\$5,551.44
85	Remove FF stair tower(s)	\$18,504.80
86	Remove FF inlet dampers	\$7,401.92
87	Remove FF hoppers	\$12,953.36
88	Remove FF support steel	\$7,401.92
89	SCR and Ammonia Supply	\$75,869.68
90	Vacuum SCR catalyst	\$3,700.96
91	Remove SCR catalyst	\$16,654.32
92	Remove ammonia injection grid	\$3,700.96
93	Remove NH3 piping between storage & injection	\$3,700.96
94	Remove air horn air receiver & supply piping	\$3,700.96
95	Remove SCR guillotine dampers	\$7,401.92
96	Remove SCR muliti-louver dampers	\$3,700.96
97	Remove SCR box, internal supports, & assoc'd ductwork	\$27,757.20
98	Remove NH3 piping between storage & vaporizors	\$5,551.44

Iatan AQCS

ID	Task Name	Cost
99	Site Preperation Work	\$0.00
100	<New Task>	\$0.00

ID	Task Name	Duration	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
1	Iatan Unit 1 AQCS Dismantlement	340.5 days						
2	Common Removal Overheads	340 days						
3	Added Overhead Staff for Common Removals	340 days						
4	Scrap Crew	340 days						
5	Crew(s) to Handle Scrap Material	340 days						
6	Demolition Contractor Consummables	340 days						
7	Consummables	340 days						
8	Demolition Contractor Equipment Rental Costs	340 days						
9	Equipment Rental	340 days						
10	Dismantlement	340.5 days						
11	Initial Structural	202.5 days						
12	Remove SCR box & ductwork lagging & insulation	10 days						
13	Remove SCR expansion joints	6 days						
14	Remove ductwork lagging & insulation	5 days						
15	Remove ductwork expansion joints	10 days						
16	Remove ductwork access platforms & ladders	10 days						
17	Remove FF lagging, insulation, wall panel, & roof panels	20 days						
18	Remove ID fan lagging & insulation	4 days						

ID	Task Name	Duration	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
19	Removal all HVAC equipment located on FGD Bldg roof	3 days						
20	Remove FGD Bldg lagging, insulation, wall panel, & roof	10 days						
21	General Electric	108 days						
22	Remove breakers serving all FF equipment	0.5 days						
23	Remove breakers serving all FGD equipment	1 day						
24	Remove breakers serving all ID fan equipment	0.5 days						
25	Remove breakers serving all SCR equipment	0.5 days						
26	Remove breakers serving all comp air equipment	0.5 days						
27	Remove all ductwork primary instrumentation, controls & assoc'd cables, and conduit	5 days						
28	Remove all FGD primary instrumentation, controls & assoc'd cables, and conduit	15 days						
29	Remove all FF primary instrumentation, controls & assoc'd cables, and conduit	10 days						
30	Remove SCR primary instrumentation, controls, & assoc'd cable & conduit	5 days						
31	Remove NH3 supply primary instrumentation, controls, & assoc'd cable & conduit	5 days						
32	Remove wiring and conduit serving FGD equipment, HVAC, lighting and convenience outlets	20 days						
33	Remove wiring and conduit serving FF equipment, HVAC, lighting and convenience outlets	10 days						
34	Remove wiring and conduit serving the ID fans and assoc'd equipment	12 days						
35	Remove wiring & conduit serving SCR vaporization & injection equipment	3 days						

ID	Task Name	Duration	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
36	Remove wiring & conduit serving compressed air equipment	3 days						
37	Remove wiring & conduit serving comp air equipment	2 days						
38	Remove electrical control cabinets & switchgear	10 days						
39	Demolish electrical control room	10 days						
40	FGD System	98.5 days						
41	Remove ductwork between FGD module and chimney	5 days						
42	Remove support steel and access platforms between FGD and chimney	3 days						
43	Remove FGD elevator	5 days						
44	Remove all mechanical equipment, pumps, and motors and tanks in FGD Bldg	20 days						
45	Remove oxi air blowers	0.5 days						
46	Remove all FGD piping & valves other than recirc piping	15 days						
47	Remove ox air lines	3 days						
48	Remove FGD MEs panels	6 days						
49	Remove FGD outlet duct and top cone	3 days						
50	Remove FGD internal wash ME piping and ME supports	3 days						
51	Remove FGD internal spray header piping	5 days						
52	Remove FGD support steel, access provisions, stair tower, and recirc piping from top down	20 days						
53	Remove FGD module walls	10 days						

ID	Task Name	Duration	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
54	Remove FGD inlet duct	3 days						
55	Remove FGD reaction tank walls and floor	10 days						
56	Remove FGD Bldg trench floor grating	2 days						
57	ID Fans	65 days						
58	Remove ductwork between ID fan outlets and FGD module	7 days						
59	Remove support steel and access platforms between ID fan outlets and FGD module	3 days						
60	Remove ductwork between FF outlet and ID fan inlets	7 days						
61	Remove support steel between FF outlet and ID fan inlets	3 days						
62	Removed ID fan isolation dampers	8 days						
63	Removed ID fan drive motor	4 days						
64	Remove ID fan seal air system	4 days						
65	Remove fan casing & rotor	8 days						
66	Fabric Filters	265.5 days						
67	Remove ductwork between air heater and FF	5 days						
68	Remove ductwork structural steel between AH and FF	3 days						
69	Remove FF penthouse hoists and trolleys	4 days						
70	Remove FF hopper heaters, HVAC, lighting and convenience outlets	10 days						
71	Remove FF ash handling piping	15 days						

ID	Task Name	Duration	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
72	Remove compress air blower, dryers, and receivers, piping & valves	10 days						
73	Remove FF penthouse roof panels supporting steel	10 days						
74	Remove FF compartment roof hatches	3 days						
75	Remove FF compartment pulse air piping	3 days						
76	Remove FF compartment pulse air and compressed air supply piping	6 days						
77	Remove FF outlet poppet damper operators	7 days						
78	Remove FF bags & cages	14 days						
79	Remove FF bag support sheets	14 days						
80	Remove remaining FF roof	4 days						
81	Remove FF outlet dampers	4 days						
82	Remove ductwork between air heater and FF	5 days						
83	Remove FF wall panels to hopper level	28 days						
84	Remove ductwork structural steel between AH and FF	3 days						
85	Remove FF stair tower(s)	10 days						
86	Remove FF inlet dampers	4 days						
87	Remove FF hoppers	7 days						
88	Remove FF support steel	4 days						
89	SCR and Ammonia Supply	38 days						

ID	Task Name	Duration	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
90	Vacuum SCR catalyst	2 days						
91	Remove SCR catalyst	9 days						
92	Remove ammonia injection grid	2 days						
93	Remove NH3 piping between storage & injection	2 days						
94	Remove air horn air receiver & supply piping	2 days						
95	Remove SCR guillotine dampers	4 days						
96	Remove SCR multi-louver dampers	2 days						
97	Remove SCR box, internal supports, & assoc'd ductwork	15 days						
98	Remove NH3 piping between storage & vaporizers	3 days						
99	Site Preparation Work	1 day						
100	<New Task>	1 day						

UNIT 2

Iatan 2 Retirement

Owner Costs

Pre-Retirement Activities	\$106,968
Retirement Activities	\$702,911
Post-Retirement Activities	\$28,182

Owner Direct Total \$838,061

Owner Internal Costs 5.00% \$41,903

Owner Contingency: 25.00% \$219,991

Iatan 2 Retirement Opinion of Probable Cost: \$1,099,956

Iatan 2 Retirement

ID	Task Name	Cost
0	Iatan 2 Retirement	\$838,061.41
1	Iatan 2 Retirement	\$838,061.41
2	Pre-Engineering	\$106,967.52
3	Permit review and engineering analysis, establish isolation points, and confirm fi	\$0.00
4	KCL&L Overhead Costs	\$120,939.52
5	KCP&L Retirement Manager	\$120,939.52
6	Equipment Rentals	\$40,538.88
7	Vacuum truck	\$40,538.88
8	Retirement	\$541,433.09
9	Electrical	\$20,553.92
10	Medium and Low Voltage Draw out Switchgear	\$2,903.52
11	De-energize all buses at the source.	\$483.92
12	Open all circuit breakers.	\$483.92
13	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$483.92
14	Verify that the closing/tripping springs are discharged.	\$483.92
15	De-energize control power and auxiliary power circuits of each circuit brea	\$967.84
16	Motor Control Centers	\$1,935.68
17	De-energize all buses at the source.	\$483.92
18	Open all circuit breakers and disconnect switches.	\$483.92
19	Remove all fuses in control circuits.	\$967.84
20	Low-voltage Switchboards and Panelboards	\$967.84
21	De-energize all buses at the source.	\$483.92
22	Open all circuit breakers and disconnect switches.	\$483.92
23	Oil-Filled Power Transformers	\$6,072.32
24	De-energize all transformer primaries and verify that the secondary is de-ei	\$967.84
25	De-energize all low-voltage AC or DC power sources for space heaters, cool	\$967.84
26	Drain and dispose of oil.	\$2,867.52
27	Clean up and dispose of oil on surface areas around the transformers on in	\$1,269.12
28	Dry-type Power Transformers	\$1,935.68
29	De-energize all transformer primaries and verify that the secondary is de-ei	\$967.84
30	De-energize all low-voltage AC or DC power sources for space heaters, cool	\$967.84
31	Motors	\$6,738.88
32	De-energize all primary power at the source.	\$1,935.68
33	De-energize all low-voltage power sources for space heaters or other auxilli	\$1,935.68
34	Drain lube oil system (if applicable) and dispose of oil.	\$2,867.52
35	Coal Handling	\$30,905.36
36	Empty all transfer hoppers.	\$1,853.84
37	Burn out coal silos.	\$1,834.56
38	Confirm all fuel lines, conveyors and trippers are clear of fuel.	\$1,834.56
39	Perform cleaning of the coal handling equipment to assure that all coal and c	\$25,382.40
40	Fuel Oil and Igniter System	\$2,751.84
41	Drain fuel oil system	\$2,751.84
42	Boiler Chemical Feed	\$1,834.56
43	Drain all chemical feed tanks.	\$1,834.56
44	Boiler	\$30,927.60
45	Open boiler doors.	\$955.84
46	Gas side - perform cleaning of the boiler and bottom ash system.	\$25,382.40
47	Drain boiler, drum, downcomers and headers.	\$917.28
48	Open drum doors.	\$955.84

Iatan 2 Retirement

ID	Task Name	Cost
49	Drain and clean the submerged flight conveyor system.	\$2,716.24
50	Stack and Ductwork	\$344,145.25
51	Open ductwork doors.	\$955.84
52	Perform extensive cleaning of the ductwork.	\$12,691.20
53	Place cap over stack opening to keep moisture out.	\$330,498.21
54	Condensate and Feedwater Piping	\$1,834.56
55	Drain water from the system.	\$917.28
56	Leave open vents and drains.	\$917.28
57	Feedwater heaters	\$2,751.84
58	Drain feedwater heaters	\$917.28
59	Leave open vents and drains.	\$1,834.56
60	Deaerator and Deaerator Storage Tank	\$1,834.56
61	Drain Deaerator and Storage	\$917.28
62	Leave open vents and drains.	\$917.28
63	Baghouse	\$18,919.84
64	Multiple cleaning cycles for filter bags.	\$2,751.84
65	Open all vent and drain lines on bag cleaning air and control air lines. Leave in	\$917.28
66	Remove all filter bags and cages.	\$955.84
67	Clear hoppers of all ash	\$3,103.68
68	Mechanically secure all compartment dampers and hopper outlet valves in op	\$955.84
69	Disconnect ash transport piping and washdown baghouse hoppers and interic	\$1,571.12
70	Install bird screens across hopper ash outlet and ash line flanges.	\$955.84
71	Padlock or tack weld all hopper doors shut. (note: if ash hopper doors are ind	\$955.84
72	If walk-in plenum, padlock or tack weld all outlet plenum doors and compartn	\$955.84
73	If top-door plenum, close and secure top doors and remove/disable door lift l	\$1,873.12
74	If top-door plenum, establish natural ventilation or maintain HVAC fan to prov	\$1,020.08
75	Pull electrical supply breakers on all electrical equipment except lighting and l	\$2,903.52
76	Wet FGD system	\$26,222.88
77	Multiple mist eliminator wash cycles. Remove ME's from absorber.	\$2,331.76
78	Drain and flush all slurry and reclaim water pumps and piping. Leave vent and	\$1,873.12
79	Drain and wash out the reaction tank, reagent storage tank, recycle water tan	\$5,183.28
80	Leave all tank drain valves open or remove. Install bird screens across opening	\$1,911.68
81	Drain all makeup and mist eliminator water pumps and piping. Leave vent anc	\$2,828.96
82	Mechanically secure all flue gas isolation dampers in open position or remove	\$1,911.68
83	Remove solids from all inlet and outlet ductwork as necessary	\$2,538.24
84	Open all vent station air and control air lines. Leave in open position or remo	\$1,873.12
85	Padlock or tack weld all access doors to modules and ductwork shut.	\$1,911.68
86	Remove access doors to open-top tanks.	\$955.84
87	Pull electrical supply breakers on all electrical equipment except lighting and l	\$2,903.52
88	FGD Reagent Preparation-Limestone wet Scrubber	\$11,270.00
89	Remove limestone from day bins.	\$1,551.84
90	Removed cartridges/bags from bin vent filters	\$1,551.84
91	Padlock or tack weld all bin access doors shut. (note: if doors are indoors, the	\$955.84
92	Remove bin discharge isolation valve and install bird screen.	\$477.92
93	Thoroughly wash and drain mills	\$1,551.84
94	Remove balls from any ball mills	\$1,269.12
95	Padlock or tack weld mill access doors closed.	\$955.84
96	Establish natural ventilation or maintain HVAC fan to provide minimum air ch	\$1,020.08
97	Pull electrical supply breakers on all electrical equipment except lighting and l	\$1,935.68

Iatan 2 Retirement


















ID	Task Name	Cost
98	FGD Byproduct Dewatering - Hydrocyclones and Vacuum Filters	\$8,032.96
99	Wash vacuum filter belt and remove all accumulated solids	\$2,538.24
100	Wash out vacuum receiver, remove pressure relief valve and access door. Inst	\$1,571.12
101	Establish natural ventilation or maintain HVAC fan to provide minimum air ch:	\$1,020.08
102	Pull electrical supply breakers on all electrical equipment except lighting and I	\$2,903.52
103	SCR	\$11,098.96
104	Vacuum fly ash from catalyst.	\$2,538.24
105	Remove catalyst of salvage or disposal.	\$3,180.80
106	Padlock or tack weld access doors shut.	\$955.84
107	Remove ammonia from storage tank for resale.	\$775.92
108	Wash out and drain storage tank and supply piping.	\$775.92
109	Vent storage tank and all piping. Leave vent and drain valves open or remove.	\$936.56
110	Pull electrical supply breakers on all electrical equipment except lighting and I	\$1,935.68
111	Turbine(s) and Condenser	\$5,715.76
112	Drain hotwell and leave doors open.	\$936.56
113	Open main turbine doors.	\$955.84
114	Open bfp turbine doors.	\$955.84
115	Remove lube oil.	\$2,867.52
116	Generator	\$6,618.48
117	Verify that generator circuit breaker is open and racked out or that high-volta	\$483.92
118	Verify that generator field breaker or contactor (if applicable) is open.	\$483.92
119	De-energize power supplies to generator excitation system at the source.	\$483.92
120	De-energize AC and DC power supplies to generator and exciter space heaters	\$483.92
121	Drain generator and exciter cooling water systems (if applicable).	\$936.56
122	Disconnect and remove hydrogen gas tanks and purge generator hydrogen sy	\$1,834.56
123	Disconnect and remove fire protection system gas/foam tanks and purge fire	\$1,911.68
124	Circulation Water and Turbine Cooling Water System	\$3,707.68
125	Drain.	\$1,834.56
126	Open water box doors.	\$955.84
127	Drain any circulating water chemical feed tanks.	\$917.28
128	Compressed Air System	\$2,945.44
129	Open vents and drains.	\$917.28
130	Remove desiccant from desiccant dryers.	\$2,028.16
131	Auxillary Steam System	\$1,834.56
132	Drain water from system.	\$917.28
133	Remove aux boiler chemicals.	\$917.28
134	Auxiliary Cooling Water System	\$917.28
135	Drain water from system.	\$917.28
136	Condenser Air Extraction and Waterbox Priming System	\$917.28
137	Drain water from system.	\$917.28
138	Building Heating System	\$917.28
139	Drain water from system.	\$917.28
140	Battery System	\$4,775.20
141	De-energize all battery chargers from the source.	\$483.92
142	Open all AC and DC circuit breakers and/or fused switches on battery charger:	\$483.92
143	Remove and dispose of battery electrolyte.	\$1,903.68
144	Remove and dispose of battery cells.	\$1,269.12
145	Clean up and dispose of electrolyte on surface areas around batteries.	\$634.56
146	Post Retirement Activities	\$28,182.40


















Iatan 2 Retirement

ID	Task Name	Cost
147	Post Retirement Activities	\$28,182.40

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
0	Iatan 2 Retirement						
1	Iatan 2 Retirement						
2	Pre-Engineering						
3	Permit review and engineering analysis, establish isolation points, and confirm fuel yard inventory has been reduced to zero tons.						
4	KCL&L Overhead Costs						
5	KCP&L Retirement Manager						
6	Equipment Rentals						
7	Vacuum truck						
8	Retirement						
9	Electrical						
10	Medium and Low Voltage Draw out Switchgear						
11	De-energize all buses at the source.						
12	Open all circuit breakers.						
13	Rack all circuit breakers into the fully withdrawn, disconnected position.						
14	Verify that the closing/tripping springs are discharged.						
15	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
16	Motor Control Centers						
17	De-energize all buses at the source.						
18	Open all circuit breakers and disconnect switches.						
19	Remove all fuses in control circuits.						
20	Low-voltage Switchboards and Panelboards						
21	De-energize all buses at the source.						
22	Open all circuit breakers and disconnect switches.						
23	Oil-Filled Power Transformers						
24	De-energize all transformer primaries and verify that the secondary is de-energized.						
25	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.						
26	Drain and dispose of oil.						
27	Clean up and dispose of oil on surface areas around the transformers on in containment pits.						
28	Dry-type Power Transformers						
29	De-energize all transformer primaries and verify that the secondary is de-energized.						
30	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.						
31	Motors						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
32	De-energize all primary power at the source.						
33	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.						
34	Drain lube oil system (if applicable) and dispose of oil.						
35	Coal Handling						
36	Empty all transfer hoppers.						
37	Burn out coal silos.						
38	Confirm all fuel lines, conveyors and trippers are clear of fuel.						
39	Perform cleaning of the coal handling equipment to assure that all coal and coal dust has been removed from site.						
40	Fuel Oil and Igniter System						
41	Drain fuel oil system						
42	Boiler Chemical Feed						
43	Drain all chemical feed tanks.						
44	Boiler						
45	Open boiler doors.						
46	Gas side - perform cleaning of the boiler and bottom ash system.						
47	Drain boiler, drum, downcomers and headers.						
48	Open drum doors.						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
49	Drain and clean the submerged flight conveyor system.						
50	Stack and Ductwork						
51	Open ductwork doors.						
52	Perform extensive cleaning of the ductwork.						
53	Place cap over stack opening to keep moisture out.						
54	Condensate and Feedwater Piping						
55	Drain water from the system.						
56	Leave open vents and drains.						
57	Feedwater heaters						
58	Drain feedwater heaters						
59	Leave open vents and drains.						
60	Deaerator and Deaerator Storage Tank						
61	Drain Deaerator and Storage						
62	Leave open vents and drains.						
63	Baghouse						
64	Multiple cleaning cycles for filter bags.						
65	Open all vent and drain lines on bag cleaning air and control air lines. Leave in open position or remove vent valves.						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
66	Remove all filter bags and cages.						
67	Clear hoppers of all ash						
68	Mechanically secure all compartment dampers and hopper outlet valves in open position.						
69	Disconnect ash transport piping and washdown baghouse hoppers and interior of casing.						
70	Install bird screens across hopper ash outlet and ash line flanges.						
71	Padlock or tack weld all hopper doors shut. (note: if ash hopper doors are indoors, they could be removed and the opening covered with bird screens.)						
72	If walk-in plenum, padlock or tack weld all outlet plenum doors and compartment ventilation dampers shut.						
73	If top-door plenum, close and secure top doors and remove/disable door lift hoist.						
74	If top-door plenum, establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in penthouse enclosure.						
75	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.						
76	Wet FGD system						
77	Multiple mist eliminator wash cycles. Remove ME's from absorber.						
78	Drain and flush all slurry and reclaim water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.						
79	Drain and wash out the reaction tank, reagent storage tank, recycle water tank, absorber blowdown tank, etc.						
80	Leave all tank drain valves open or remove. Install bird screens across openings.						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
81	Drain all makeup and mist eliminator water pumps and piping. Leave vent and drain valves open or remove. Install bird screens across drain openings.						
82	Mechanically secure all flue gas isolation dampers in open position or remove damper blades.						
83	Remove solids from all inlet and outlet ductwork as necessary						
84	Open all vent station air and control air lines. Leave in open position or remove vent valves						
85	Padlock or tack weld all access doors to modules and ductwork shut.						
86	Remove access doors to open-top tanks.						
87	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.						
88	FGD Reagent Preparation-Limestone wet Scrubber						
89	Remove limestone from day bins.						
90	Removed cartridges/bags from bin vent filters						
91	Padlock or tack weld all bin access doors shut. (note: if doors are indoors, they could be removed and the opening covered with bird screens.)						
92	Remove bin discharge isolation valve and install bird screen.						
93	Thoroughly wash and drain mills						
94	Remove balls from any ball mills						
95	Padlock or tack weld mill access doors closed.						
96	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
97	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.						
98	FGD Byproduct Dewatering - Hydrocyclones and Vacuum Filters						
99	Wash vacuum filter belt and remove all accumulated solids						
100	Wash out vacuum receiver, remove pressure relief valve and access door. Install bird screens.						
101	Establish natural ventilation or maintain HVAC fan to provide minimum air changes per hour in building.						
102	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.						
103	SCR						
104	Vacuum fly ash from catalyst.						
105	Remove catalyst of salvage or disposal.						
106	Padlock or tack weld access doors shut.						
107	Remove ammonia from storage tank for resale.						
108	Wash out and drain storage tank and supply piping.						
109	Vent storage tank and all piping. Leave vent and drain valves open or remove. Install bird screens.						
110	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.						
111	Turbine(s) and Condenser						
112	Drain hotwell and leave doors open.						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
113	Open main turbine doors.						
114	Open bfp turbine doors.						
115	Remove lube oil.						
116	Generator						
117	Verify that generator circuit breaker is open and racked out or that high-voltage disconnect switch on substation side of GSU transformer is locked in the open position.						
118	Verify that generator field breaker or contactor (if applicable) is open.						
119	De-energize power supplies to generator excitation system at the source.						
120	De-energize AC and DC power supplies to generator and exciter space heaters, cooling equipment, controls, lighting, etc. at the source and open circuit breakers or remove fuses at the generator and exciter.						
121	Drain generator and exciter cooling water systems (if applicable).						
122	Disconnect and remove hydrogen gas tanks and purge generator hydrogen system.						
123	Disconnect and remove fire protection system gas/foam tanks and purge fire protection system.						
124	Circulation Water and Turbine Cooling Water System						
125	Drain.						
126	Open water box doors.						
127	Drain any circulating water chemical feed tanks.						
128	Compressed Air System						

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
129	Open vents and drains.					▼	
130	Remove desiccant from desiccant dryers.					▼	
131	Auxiliary Steam System					▼	
132	Drain water from system.					▼	
133	Remove aux boiler chemicals.					▼	
134	Auxiliary Cooling Water System					▼	
135	Drain water from system.					▼	
136	Condenser Air Extraction and Waterbox Priming System					▼	
137	Drain water from system.					▼	
138	Building Heating System					▼	
139	Drain water from system.					▼	
140	Battery System					▼	
141	De-energize all battery chargers from the source.					▼	
142	Open all AC and DC circuit breakers and/or fused switches on battery chargers and disconnect cables from batteries.					▼	
143	Remove and dispose of battery electrolyte.					▼	
144	Remove and dispose of battery cells.					▼	
145	Clean up and dispose of electrolyte on surface areas around batteries.					▼	

ID	Task Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
146	Post Retirement Activities						
147	Post Retirement Activities						

Iatan 2 Dismantlement

Owner Additional Costs

Pre-Dismantlement Activities	\$1,262,586	
Overhead During Dismantlement	\$2,291,699	
Post-Dismantlement Activities	\$79,455	
Owner Costs Total		\$3,633,740

Demolition General Contractor (DGC) Costs

Additional Site Management	\$1,521,477
Equipment Rental	\$2,606,917
Consumables	\$2,845,750
Scrap Crew(s)	\$2,538,269
Dismantlement*	\$6,234,218

DGC Insurance 2.00% \$314,933

Contingency/Profit 15.00% \$2,409,235

Performance Bond 2.00% \$369,416.00

Contractor Costs Total: \$18,840,216

Total: \$22,473,955

Owner Internal Costs: 5.00% \$1,123,698

Owner Contingency: 25.00% \$5,899,413

Iatan Unit 2 Dismantlement Opinion of Probable Cost: \$29,497,067

1000

1000

COMMON

1000

latan Common Retirement

Owner Costs

Pre-Retirement Activities	\$55,645
Retirement Activities	\$401,998
Post-Retirement Activities	\$34,035

Owner Direct Total \$491,678

Owner Internal Costs 5.00% \$24,584

Owner Contingency: 25.00% \$129,066

latan Common Retirement Opinion of Probable Cost: \$645,328

Activities Required by Permit or Regulation

latan Fuel Storage	\$191,130
latan Oil Storage	\$53,766
latan Landfill Retirement	\$3,415,033
latan Ash Pond(s)	\$37,236,839

Activities Required by Permit or Regulation \$40,896,768

Iatan Common Retirement

ID	Task Name	Cost
0	Iatan Common Retirement	\$491,678.16
1	Iatan Common Retirement	\$491,678.16
2	Pre-Retirement Activities	\$55,644.80
3	Permitting Review	\$27,822.40
4	Develop Detailed Retirement Plan	\$27,822.40
5	Overheads	\$108,867.92
6	Common Retirement Overheads	\$95,428.40
7	Added Overhead Staff for Common Retirement	\$95,428.40
8	Common Retirement Equipment Rental	\$13,439.52
9	Common Removal Equipment Rental	\$13,439.52
10	Retirement Activities	\$293,130.24
11	Administration Building	\$19,040.40
12	Secure Administration Building	\$19,040.40
13	Fuel Yard Office Building	\$11,424.24
14	Secure Fuel Yard Office Building	\$11,424.24
15	Training Building	\$11,424.24
16	Secure Training Building	\$11,424.24
17	Warehouse(s)	\$11,726.24
18	Secure Unit 1 Warehouse	\$4,110.08
19	Secure Unit 2 Warehouse	\$7,616.16
20	Maintenance Shop	\$28,562.40
21	Secure Maintenance Shop	\$28,562.40
22	Fuel Yard	\$146,594.00
23	Transfer Towers	\$89,922.00
24	Clean Transfer Tower 1	\$4,231.44
25	Clean Transfer Tower 2	\$4,231.44
26	Clean and Secure Crusher Building	\$7,052.40
27	Clean Stockout Conveyor Reclaim Pit	\$14,104.80
28	Conveyors	\$19,746.72
29	Clean Conveyor 2A, 4, 5B 6A, 6B, 7A and 7B	\$19,746.72
30	Car Dumper	\$9,873.36
31	Empty Car Dumper Hoppers	\$1,410.48
32	Clean Car Dumper	\$4,231.44
33	Secure Dumper Building	\$4,231.44
34	Remove Stacker/Reclaimer	\$21,410.00
35	Clean and Secure Stacker/Reclaimer	\$7,052.40
36	Unit 1 Reclaim	\$5,641.92
37	Clean Unit 1 Reclaim	\$2,820.96
38	Secure Unit 1 Reclaim Building	\$2,820.96
39	Sewage Treatment	\$4,724.64
40	Clean Sewage Treatment and Transfer Points	\$4,724.64
41	Fuel Oil Storage and Unloading	\$917.28
42	Remove Fuel Oil from Fuel Oil Storage and Vent	\$917.28
43	Yard Fire Water Systems	\$917.28
44	Drain Yard Fire Water System	\$917.28
45	Reagent Prep and Gypsum Handling	\$32,794.96
46	Clean and Secure Limestone Unloading Facility	\$4,231.44
47	Clean and Secure Limestone Storage Facility	\$4,231.44
48	Clean Limestone Conveyor	\$4,307.28

Iatan Common Retirement

ID	Task Name	Cost
49	Clean and Secure Limestone Prep Building	\$7,178.80
50	Clean Gypsum Stackout Conveyor	\$2,871.52
51	Clean and Secure PCM-1	\$2,871.52
52	Clean and Secure PCM-2	\$2,871.52
53	Clean and Secure the Vacuum Pump and Air Compressor Building	\$4,231.44
54	Water Pretreatment and ZLD	\$25,004.56
55	Drain and Clean Clarifiers	\$4,231.44
56	Drain and Clean ZLD System	\$8,462.88
57	Clean and Secure ZLD Building	\$9,489.28
58	Drain and Vent Storage Tanks	\$2,820.96
59	Post Retirement Closure Activities	\$34,035.20
60	Post Retirement Closure Activities	\$34,035.20

ID	Task Name	Duration	December 1	January 1	February 1	March 1	April 1	May 1	June 1	July 1
0	Iatan Common Retirement	131 days								
1	Iatan Common Retirement	131 days								
2	Pre-Retirement Activities	40 days								
3	Permitting Review	20 days								
4	Develop Detailed Retirement Plan	20 days								
5	Overheads	61 days								
6	Common Retirement Overheads	61 days								
7	Added Overhead Staff for Common Retirement	61 days								
8	Common Retirement Equipment Rental	61 days								
9	Common Removal Equipment Rental	61 days								
10	Retirement Activities	61 days								
11	Administration Building	15 days								
12	Secure Administration Building	15 days								
13	Fuel Yard Office Building	9 days								
14	Secure Fuel Yard Office Building	9 days								
15	Training Building	9 days								
16	Secure Training Building	9 days								
17	Warehouse(s)	8 days								

ID	Task Name	Duration	December 1	January 1	February 1	March 1	April 1	May 1	June 1	July 1
18	Secure Unit 1 Warehouse	2 days								
19	Secure Unit 2 Warehouse	6 days								
20	Maintenance Shop	20 days								
21	Secure Maintenance Shop	20 days								
22	Fuel Yard	51 days								
23	Transfer Towers	21 days								
24	Clean Transfer Tower 1	3 days								
25	Clean Transfer Tower 2	3 days								
26	Clean and Secure Crusher Building	5 days								
27	Clean Stockout Conveyor Reclaim Pit	10 days								
28	Conveyors	14 days								
29	Clean Conveyor 2A, 4, 5B 6A, 6B, 7A and 7B	14 days								
30	Car Dumper	7 days								
31	Empty Car Dumper Hoppers	1 day								
32	Clean Car Dumper	3 days								
33	Secure Dumper Building	3 days								
34	Remove Stacker/Reclaimer	5 days								
35	Clean and Secure Stacker/Reclaimer	5 days								

ID	Task Name	Duration	December 1	January 1	February 1	March 1	April 1	May 1	June 1	July 1
36	Unit 1 Reclaim	4 days								
37	Clean Unit 1 Reclaim	2 days								
38	Secure Unit 1 Reclaim Building	2 days								
39	Sewage Treatment	4 days								
40	Clean Sewage Treatment and Transfer Points	4 days								
41	Fuel Oil Storage and Unloading	1 day								
42	Remove Fuel Oil from Fuel Oil Storage and Vent	1 day								
43	Yard Fire Water Systems	1 day								
44	Drain Yard Fire Water System	1 day								
45	Reagent Prep and Gypsum Handling	23 days								
46	Clean and Secure Limestone Unloading Facility	3 days								
47	Clean and Secure Limestone Storage Facility	3 days								
48	Clean Limestone Conveyor	3 days								
49	Clean and Secure Limestone Prep Building	5 days								
50	Clean Gypsum Stackout Conveyor	2 days								
51	Clean and Secure PCM-1	2 days								
52	Clean and Secure PCM-2	2 days								

ID	Task Name	Duration	December 1	January 1	February 1	March 1	April 1	May 1	June 1	July 1
53	Clean and Secure the Vacuum Pump and Air Compressor Building	3 days								
54	Water Pretreatment and ZLD	15 days								
55	Drain and Clean Clarifiers	3 days								
56	Drain and Clean ZLD System	6 days								
57	Clean and Secure ZLD Building	4 days								
58	Drain and Vent Storage Tanks	2 days								
59	Post Retirement Closure Activities	40 days								
60	Post Retirement Closure Activities	40 days								

Iatan Common Dismantlement

Owner Additional Costs

Pre-Dismantlement Activities	\$0	
Overhead During Dismantlement	\$0	
Post-Dismantlement Activities		
Owner Costs Total		\$0

Demolition General Contractor (DGC) Costs

Additional Site Management		\$91,204
Equipment Rental		\$440,123
Consumables		\$659,404
Scrap Crew(s)		\$643,967
Dismantlement		\$14,757,051
DGC Insurance	2.00%	\$331,835
Contingency/Profit	15.00%	\$2,538,538
Performance Bond	2.00%	\$389,242.42
Contractor Costs Total:		\$19,851,363

Total: \$19,851,363

Owner Internal Costs: 5.00% \$992,568

Owner Contingency: 25.00% \$5,210,983

Iatan Common Dismantlement Opinion of Probable Cost: \$26,054,914

Iatan Common

ID	Task Name	Cost
0	Iatan Common	\$16,591,748.40
1	Iatan Common Dismantlement	\$16,591,748.40
2	Overheads	\$1,834,697.84
3	Common Removal Overheads	\$91,203.83
4	Added Overhead Staff for Common Removals	\$91,203.83
5	Common Removal Equipment Rental	\$440,122.56
6	Common Removal Equipment Rental	\$440,122.56
7	Scrap Crew	\$643,967.13
8	Crew(s) to Handle Scrap Material	\$643,967.13
9	Demolition Contractor Consumables	\$659,404.32
10	Consumables	\$659,404.32
11	Dismantlement Activities	\$14,757,050.56
12	Administration Building	\$37,009.60
13	Remove Administration Building	\$37,009.60
14	Fuel Yard Office Building	\$18,504.80
15	Remove Fuel Yard Office Building	\$18,504.80
16	Training Building	\$18,504.80
17	Remove Training Building	\$18,504.80
18	Parking Lots and Plant Roads	\$85,122.08
19	Plant Roads and Parking Areas	\$74,019.20
20	Guard Shack	\$11,102.88
21	Warehouse(s)	\$37,009.60
22	Remove Unit 1 Warehouse	\$18,504.80
23	Remove Unit 2 Warehouse	\$18,504.80
24	Maintenance Shop	\$23,984.80
25	Remove Maintenance Shop	\$23,984.80
26	Fuel Yard	\$777,201.60
27	Remove Transfer Towers	\$481,124.80
28	Transfer Tower 1	\$37,009.60
29	Transfer Tower 2	\$37,009.60
30	Crusher Building	\$74,019.20
31	Stockout Conveyor Reclaim Pit	\$92,524.00
32	Remove Conveyors	\$129,533.60
33	Conveyor 2A, 4, 5B 6A, 6B, 7A and 7B	\$129,533.60
34	Remove Car Dumper	\$92,524.00
35	Remove Underground Equipment	\$18,504.80
36	Remove Above Ground Equipment	\$37,009.60
37	Remove Building	\$18,504.80
38	Backfill Dumper Structure	\$18,504.80
39	Remove Stacker/Reclaimer	\$7,401.92
40	Remove Stacker/Reclaimer	\$3,700.96
41	Remove Unit 1 Reclaim	\$66,617.28
42	Remove Underground Equipment	\$18,504.80
43	Remove Above Ground Equipment	\$18,504.80
44	Remove Building	\$14,803.84
45	Backfill Structure	\$14,803.84
46	Sewage Treatment	\$22,205.76
47	Remove Sewage Treatment Pumps and Miscellaneous Equipment	\$7,401.92
48	Remove Sewage Treatment Concrete Structures	\$14,803.84

Iatan Common

ID	Task Name	Cost
49	Yard Fire Water Systems	\$37,009.60
50	Remove Hydrants and Fire Water System Piping Down to 3' Below Grade	\$37,009.60
51	Water Pretreatment Clarifiers and ZLD	\$125,832.64
52	Remove Clarifier Vessels	\$11,102.88
53	Remove Pump House	\$18,504.80
54	Remove Clarifier Water Storage Tanks	\$18,504.80
55	Remove Water Treatment Equipment	\$11,102.88
56	Remove Water Treatment Building	\$18,504.80
57	Remove ZLD Equipment	\$11,102.88
58	Remove ZLD Building	\$18,504.80
59	Remove Condensate Storage Tanks	\$18,504.80
60	Stacks	\$11,574,284.01
61	Remove Unit 1 Stack to Grade	\$4,406,642.74
62	Remove Common Stack to Grade	\$7,167,641.27
63	Reagent Prep and Gypsum Handling	\$347,890.24
64	Remove Limestone Unloading Facility	\$37,009.60
65	Remove Limestone Storage Facility	\$18,504.80
66	Remove Limestone Conveyor	\$18,504.80
67	Remove Limestone Prep Building	\$148,038.40
68	Remove Gypsum Stackout Conveyor	\$18,504.80
69	Remove PCM-1	\$7,401.92
70	Remove PCM-2	\$7,401.92
71	Remove the Vacuum Pump and Air Compressor Building	\$74,019.20
72	Remove Miscellaneous Equipment	\$18,504.80
73	Final Site Grading and Drainage	\$1,652,491.03
74	Final Site Grading and Drainage	\$1,652,491.03

ID	Task Name	Duration	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quarter
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
0	Plant Common Dismantlement	208 days												
1	Plant Common Dismantlement	208 days												
2	Overheads	174 days												
3	Common Removal Overheads	174 days												
4	Added Overhead Staff for Common Removals	174 days												
5	Common Removal Equipment Rental	174 days												
6	Common Removal Equipment Rental	174 days												
7	Scrap Crew	174 days												
8	Crew(s) to Handle Scrap Material	174 days												
9	Demolition Contractor Consumables	174 days												
10	Consumables	174 days												
11	Dismantlement Activities	208 days												
12	Administration Building	10 days												
13	Remove Administration Building	10 days												
14	Fuel Yard Office Building	5 days												
15	Remove Fuel Yard Office Building	5 days												
16	Training Building	5 days												
17	Remove Training Building	5 days												
18	Parking Lots and Plant Roads	23 days												
19	Plant Roads and Parking Areas	20 days												
20	Guard Shack	3 days												
21	Warehouse(s)	10 days												
22	Remove Unit 1 Warehouse	5 days												
23	Remove Unit 2 Warehouse	5 days												
24	Maintenance Shop	10 days												
25	Remove Maintenance Shop	10 days												
26	Fuel Yard	144 days												
27	Remove Transfer Towers	65 days												
28	Transfer Tower 1	10 days												
29	Transfer Tower 2	10 days												
30	Crusher Building	20 days												

ID	Task Name	Duration	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quar	
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	
31	Stockout Conveyor Reclaim Pit	25 days													
32	Remove Conveyors	35 days													
33	Conveyor 2A, 4, 5B 6A, 6B, 7A and 7B	35 days													
34	Remove Car Dumper	25 days													
35	Remove Underground Equipment	5 days													
36	Remove Above Ground Equipment	10 days													
37	Remove Building	5 days													
38	Backfill Dumper Structure	5 days													
39	Remove Stacker/Reclaimer	1 day													
40	Remove Stacker/Reclaimer	1 day													
41	Remove Unit 1 Reclaim	18 days													
42	Remove Underground Equipment	5 days													
43	Remove Above Ground Equipment	5 days													
44	Remove Building	4 days													
45	Backfill Structure	4 days													
46	Sewage Treatment	6 days													
47	Remove Sewage Treatment Pumps and Miscellaneous Equipment	2 days													
48	Remove Sewage Treatment Concrete Structures	4 days													
49	Yard Fire Water Systems	10 days													
50	Remove Hydrants and Fire Water System Piping Down to 3' Below Grade	10 days													
51	Water Pretreatment Clarifiers and ZLD	34 days													
52	Remove Clarifier Vessels	3 days													
53	Remove Pump House	5 days													
54	Remove Clarifier Water Storage Tanks	5 days													
55	Remove Water Treatment Equipment	3 days													

ID	Task Name	Duration	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quarter	
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	
56	Remove Water Treatment Building	5 days													
57	Remove ZLD Equipment	3 days													
58	Remove ZLD Building	5 days													
59	Remove Condensate Storage Tanks	5 days													
60	Stacks	1 day													
61	Remove Unit 1 Stack to Grade	1 day													
62	Remove Common Stack to Grade	1 day													
63	Reagent Prep and Gypsum Handling	94 days													
64	Remove Limestone Unloading Facility	10 days													
65	Remove Limestone Storage Facility	5 days													
66	Remove Limestone Conveyor	5 days													
67	Remove Limestone Prep Building	40 days													
68	Remove Gypsum Stackout Conveyor	5 days													
69	Remove PCM-1	2 days													
70	Remove PCM-2	2 days													
71	Remove the Vacuum Pump and Air Compressor Building	20 days													
72	Remove Miscellaneous Equipment	5 days													
73	Final Site Grading and Drainage	1 day													
74	Final Site Grading and Drainage	1 day													

NORTHEAST GENERATING STATION

NORTHEAST GENERATING STATION

The Northeast Generating Station consists of eight fuel-oil-fired combustion turbine generator sets.

Together these combustion turbines have a total SPP-accredited unit rating of 408 MW. The units are designated Units 11 through 18, and were added to an existing steam electric generating plant site during the 1970s. Units 11 and 12 began service in 1972; Units 13 and 14 in 1975; Units 15 and 16 in 1976; and Units 17 and 18 in 1977. Each unit is comprised of a General Electric Model 7B combustion turbine and each pair of units is connected to a three-winding generator step-up transformer and is provided with auxiliary power through a common bus. Each combustion turbine employs standard annular combustor technology and burns only distillate or ultra-low sulfur fuel oil. Diesel starting means is provided and Northeast is a designated black-start facility.

The following are the major systems and equipment that were included in the retirement and dismantlement of each unit and the major systems and equipment that were considered common (additional details are listed in the attached retirement and dismantlement schedules included in this Appendix).

NORTHEAST UNITS 11 THROUGH 18

1. Combustion turbine generator sets and auxiliaries (eight).
2. Generator step-up and auxiliary transformers (four).
3. Exhaust stacks (eight).

COMMON

1. Service building.
2. Fuel oil unloading, storage, and forwarding equipment.
3. Service/Instrument air compressors.

Northeast Retirement

Owner Costs

Pre-Retirement Activities	\$46,506
Retirement Activities	\$329,203
Post-Retirement Activities	\$47,901

Owner Direct total \$423,609

Owner Internal Costs: 5.00% \$21,180

Owner Contingency: 25.00% \$111,197

Northeast Dismantlement Opinion of Probable Cost: \$555,987

Activities Required by Permit or Regulation

Northeast Fuel Oil Tank Removal	\$553,553	
Activities Required by Permit or Regulation		\$553,553

Northeast Retirement

ID	Task Name	Cost
0	Northeast Retirement	\$423,609.36
1	Northeast Retirement	\$423,609.36
2	Pre-Retirement Activities	\$46,505.60
3	Permitting Review	\$24,896.00
4	Develop Detailed Retirement Plan	\$21,609.60
5	Retirement Activities	\$329,202.96
6	Project Management During Retirement	\$144,649.60
7	Project Management During Retirement	\$144,649.60
8	Electrical	\$94,187.52
9	Medium and Low Voltage Drawout Switchgear	\$26,490.24
10	De-energize all buses at the source.	\$5,886.72
11	Open all circuit breakers.	\$5,886.72
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$5,886.72
13	Verify that the closing/tripping springs are discharged.	\$5,886.72
14	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	\$2,943.36
15	Motor Control Centers	\$12,754.56
16	De-energize all buses at the source.	\$2,943.36
17	Open all circuit breakers and disconnect switches.	\$4,905.60
18	Remove all fuses in control circuits.	\$4,905.60
19	Low-voltage Switchboards and Panelboards	\$11,773.44
20	De-energize all buses at the source.	\$5,886.72
21	Open all circuit breakers and disconnect switches.	\$5,886.72
22	Oil-Filled Power Transformers	\$19,622.40
23	De-energize all buses at the source.	\$4,905.60
24	Open all circuit breakers and disconnect switches.	\$4,905.60
25	De-energize all buses at the source.	\$4,905.60
26	Open all circuit breakers and disconnect switches.	\$4,905.60
27	Dry-type Power Transformers	\$8,830.08
28	De-energize all transformer primaries and verify that the secondary is de-energized.	\$4,905.60
29	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	\$3,924.48
30	Motors	\$14,716.80
31	De-energize all primary power at the source.	\$4,905.60
32	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	\$4,905.60
33	Drain lube oil system (if applicable) and dispose of oil.	\$4,905.60
34	Fuel Oil System	\$6,151.36
35	Isolate Fuel Oil System	\$4,264.32
36	Drain and Vent Fuel Oil Piping	\$1,887.04
37	Lube Oil Cooling Water System	\$10,378.72

Northeast Retirement

ID	Task Name	Cost
38	Open and Drain the Water Side of the Lube Oil Coolers	\$7,548.16
39	Open and Vent the Coolers and Expansion Tank	\$2,830.56
40	Oily Drain Tank	\$4,266.96
41	Open and Pump Out the Oily Drain Tank	\$4,266.96
42	Compressed Air	\$3,774.08
43	Empty Dessiccant Air Dryers and Vent	\$1,887.04
44	Open and Vent the Air Receiver	\$1,887.04
45	Miscellaneous Piping	\$16,039.84
46	Open and Vent the Exhaust Frame Cooling Piping	\$2,830.56
47	Open and Vent the Inlet Air Heating Piping	\$2,830.56
48	Open & Vent the CT Air Process Piping	\$7,548.16
49	Open and Vent the CT Air Processing Piping	\$2,830.56
50	Fire Protection Piping	\$7,495.68
51	Empty the CO2 Storage Tank	\$5,608.64
52	Open and Vent the Fire Protection Piping	\$1,887.04
53	Lube Oil System	\$32,354.64
54	Empty and Remove from Site the Lubricating Oil	\$21,032.40
55	Drain Lubricating Oil Piping	\$9,435.20
56	Open and Vent Lubricating Oil Piping	\$1,887.04
57	Potable Water	\$2,888.40
58	Disconnect Potable Water at Property Boundary	\$2,888.40
59	Waste Water	\$4,264.32
60	Disconnect Waste Water at Property Boundary	\$4,264.32
61	Unleaded Gasoline Fueling Station	\$2,751.84
62	Drain the Unleaded Gasoline Fueling Station	\$2,751.84
63	Post Retirement Closure Activity	\$47,900.80
64	Post Retirement Closure Activity	\$47,900.80

ID	Task Name	Duration	Timeline												
			Dec	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	Northeast Retirement	250 days	[Gantt bar spanning Dec to Dec]												
1	Northeast Retirement	250 days	[Gantt bar spanning Dec to Dec]												
2	Pre-Retirement Activities	40 days	[Gantt bar spanning Dec to Feb]												
3	Permitting Review	20 days	[Blue Gantt bar spanning Dec to Jan]												
4	Develop Detailed Retirement Plan	20 days	[Arrow pointing from Jan to Mar]												
5	Retirement Activities	170 days	[Gantt bar spanning Mar to Nov]												
6	Project Management During Retirement	170 days	[Gantt bar spanning Mar to Nov]												
7	Project Management During Retirement	170 days	[Arrow pointing from Mar to Nov]												
8	Electrical	96 days	[Gantt bar spanning Mar to Jun]												
9	Medium and Low Voltage Drawout Switchgear	27 days	[Gantt bar spanning Mar to Apr]												
10	De-energize all buses at the source.	6 days	[Arrow pointing from Apr to May]												
11	Open all circuit breakers.	6 days	[Arrow pointing from May to Jun]												
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	6 days	[Arrow pointing from Jun to Jul]												
13	Verify that the closing/tripping springs are discharged.	6 days	[Arrow pointing from Jul to Aug]												
14	De-energize control power and auxiliary power circuits of 3 days each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	3 days	[Arrow pointing from Aug to Sep]												
15	Motor Control Centers	13 days	[Gantt bar spanning Sep to Oct]												

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
16	De-energize all buses at the source.	3 days													
17	Open all circuit breakers and disconnect switches.	5 days													
18	Remove all fuses in control circuits.	5 days													
19	Low-voltage Switchboards and Panelboards	12 days													
20	De-energize all buses at the source.	6 days													
21	Open all circuit breakers and disconnect switches.	6 days													
22	Oil-Filled Power Transformers	20 days													
23	De-energize all buses at the source.	5 days													
24	Open all circuit breakers and disconnect switches.	5 days													
25	De-energize all buses at the source.	5 days													
26	Open all circuit breakers and disconnect switches.	5 days													
27	Dry-type Power Transformers	9 days													
28	De-energize all transformer primaries and verify that the secondary is de-energized.	5 days													
29	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	4 days													
30	Motors	15 days													
31	De-energize all primary power at the source.	5 days													

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	5 days													
33	Drain lube oil system (if applicable) and dispose of oil.	5 days													
34	Fuel Oil System	5 days													
35	Isolate Fuel Oil System	3 days													
36	Drain and Vent Fuel Oil Piping	2 days													
37	Lube Oil Cooling Water System	11 days													
38	Open and Drain the Water Side of the Lube Oil Coolers	8 days													
39	Open and Vent the Coolers and Expansion Tank	3 days													
40	Oily Drain Tank	3 days													
41	Open and Pump Out the Oily Drain Tank	3 days													
42	Compressed Air	4 days													
43	Empty Dessiccant Air Dryers and Vent	2 days													
44	Open and Vent the Air Receiver	2 days													
45	Miscellaneous Piping	14 days													
46	Open and Vent the Exhaust Frame Cooling Piping	3 days													
47	Open and Vent the Inlet Air Heating Piping	3 days													
48	Open & Vent the CT Air Process Piping	8 days													

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
49	Open and Vent the CT Air Processing Piping	3 days													
50	Fire Protection Piping	6 days													
51	Empty the CO2 Storage Tank	4 days													
52	Open and Vent the Fire Protection Piping	2 days													
53	Lube Oil System	27 days													
54	Empty and Remove from Site the Lubricating Oil	15 days													
55	Drain Lubricating Oil Piping	10 days													
56	Open and Vent Lubricating Oil Piping	2 days													
57	Potable Water	3 days													
58	Disconnect Potable Water at Property Boundary	3 days													
59	Waste Water	3 days													
60	Disconnect Waste Water at Property Boundary	3 days													
61	Unleaded Gasoline Fueling Station	3 days													
62	Drain the Unleaded Gasoline Fueling Station	3 days													
63	Post Retirement Closure Activity	40 days													
64	Post Retirement Closure Activity	40 days													

Northeast Dismantlement

Owner Costs

Pre-Dismantlement Activities	\$1,104,559
Overhead During Dismantlement	\$1,538,618
Post-Dismantlement Activities	\$69,510

Owner Costs Total \$2,712,688

Demolition General Contractor (DGC) Costs

Site Management	\$743,767
Equipment Rental	\$1,253,525
Consumables	\$1,250,594
Scrap Crew(s)	\$324,113
Dismantlement	\$1,192,391

DGC Insurance 2.00% \$95,288

Contingency/Profit 15.00% \$728,952

Performance Bond 2.00% \$111,773

Contractor Costs Total: \$5,700,402

Total: \$8,413,090

Owner Internal Costs: 5.00% \$420,654

Owner Contingency: 25.00% \$2,208,436

Northeast Dismantlement Opinion of Probable Cost: \$11,042,180

Northeast CT Dismantlement

ID	Task Name	Cost
0	Northeast CT Dismantlement	\$7,477,077.60
1	Northeast CT Dismantlement	\$7,477,077.60
2	Pre-Demolition Activities	\$1,104,558.96
3	Detailed Planning & Hire Owner's Engineer	\$110,802.72
4	Detailed Site Characterization Study	\$783,536.00
5	Hire Demolition general Contractor	\$198,647.04
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20
7	Demolition Contractor Mobilizes on Sit	\$0.00
8	KCP&L Overhead during Dismantlement	\$1,538,618.40
9	KCP&L Project Manager	\$216,902.40
10	KCP&L Administrative Support	\$80,229.60
11	KCP&L Engineer	\$356,558.40
12	Owners Engineer Project Manager	\$108,768.00
13	Owners Engineer - Engineer	\$776,160.00
14	Demolition Contractor Overhead during Dismantlement	\$743,767.20
15	Demolition Contractor Project Manager	\$210,434.40
16	Demolition Contractor Safety Manager	\$187,387.20
17	Demolition Contractor Superintendent	\$345,945.60
18	Demolition Contractor Equipment Rental Cost	\$1,253,524.80
19	Equipment Rental	\$1,253,524.80
20	Demolition Contractor Consumables	\$1,250,594.40
21	Consumables	\$1,250,594.40
22	Scrap Crews	\$324,112.80
23	Crew to Handle Scrap Material(s)	\$324,112.80
24	Dismantlement	\$1,192,390.64
25	Electrical	\$298,823.20
26	Electrical Demolition of Equipment	\$298,823.20
27	Fuel Oil System	\$27,158.96
28	Remove Above Ground Fuel Oil Piping	\$8,654.16
29	Fuel Skids	\$18,504.80
30	Lube Oil System	\$64,766.80
31	Lube Oil Piping	\$27,757.20
32	Lube Oil Pumps	\$18,504.80
33	Lube Oil Tanks	\$18,504.80
34	Fire Protection	\$61,065.84
35	Fire Protection Piping	\$29,607.68
36	Firewater Tank	\$16,654.32
37	CO2 Storage Tank	\$14,803.84
38	Miscellaneous Piping	\$86,972.56
39	Exhaust Frame Cooling Piping	\$27,757.20
40	CT Air Processing Piping	\$31,458.16
41	Inlet Air Heating Piping	\$27,757.20
42	Generator	\$92,524.00
43	Generator	\$92,524.00
44	Combustion Turbine	\$262,768.16
45	Inlet Heater	\$18,504.80
46	Inlet duct	\$31,458.16
47	Exhaust duct	\$37,009.60
48	Combustion Turbine	\$111,028.80

Northeast CT Dismantlement

ID	Task Name	Cost
49	Combustion Turbine Foundation	\$27,757.20
50	Enclosure	\$37,009.60
51	CEMS	\$18,504.80
52	CEMS Building	\$9,252.40
53	CEMS Building Foundation	\$9,252.40
54	Stack	\$74,019.20
55	Stacks	\$74,019.20
56	Site Buildings	\$18,504.80
57	Remove Site Buildings	\$18,504.80
58	Site Prep	\$187,282.32
59	Final Grading and Drainage	\$187,282.32
60	Post Dismantlement Activities	\$69,510.40
61	Post Dismantlement Activities	\$69,510.40

ID	Task Name	Duration	Quarter	2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter			3rd Q
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
0	Northeast CT Dismantlement	330 days																	
1	Northeast CT Dismantlement	330 days																	
2	Pre-Demolition Activities	130 days																	
3	Detailed Planning & Hire Owner's Engineer	3 mons																	
4	Detailed Site Characterization Study	130 days																	
5	Hire Demolition general Contractor	3 mons																	
6	KCP&L Prepares Unit for Dismantlement	2 wks																	
7	Demolition Contractor Mobilizes on Site	5 days																	
8	KCP&L Overhead during Dismantlement	330 days																	
9	KCP&L Project Manager	330 days																	
10	KCP&L Administrative Support	330 days																	
11	KCP&L Engineer	330 days																	
12	Owners Engineer Project Manager	330 days																	
13	Owners Engineer - Engineer	330 days																	
14	Demolition Contractor Overhead during Dismantlement	330 days																	
15	Demolition Contractor Project Manager	330 days																	
16	Demolition Contractor Safety Manager	330 days																	
17	Demolition Contractor Superintendent	330 days																	
18	Demolition Contractor Equipment Rental Cost	330 days																	
19	Equipment Rental	330 days																	
20	Demolition Contractor Consumables	330 days																	
21	Consumables	330 days																	
22	Scrap Crews	330 days																	
23	Crew to Handle Scrap Material(s)	330 days																	
24	Dismantlement	330 days																	
25	Electrical	130 days																	
26	Electrical Demolition of Equipment	130 days																	
27	Fuel Oil System	25 days																	
28	Remove Above Ground Fuel Oil Piping	15 days																	
29	Fuel Skids	10 days																	
30	Lube Oil System	35 days																	

ID	Task Name	Duration	Quarter	2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter			3rd Q	
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
31	Lube Oil Piping	15 days																		
32	Lube Oil Pumps	10 days																		
33	Lube Oil Tanks	10 days																		
34	Fire Protection	33 days																		
35	Fire Protection Piping	16 days																		
36	Firewater Tank	9 days																		
37	CO2 Storage Tank	8 days																		
38	Miscellaneous Piping	47 days																		
39	Exhaust Frame Cooling Piping	15 days																		
40	CT Air Processing Piping	17 days																		
41	Inlet Air Heating Piping	15 days																		
42	Generator	50 days																		
43	Generator	50 days																		
44	Combustion Turbine	142 days																		
45	Inlet Heater	10 days																		
46	Inlet duct	17 days																		
47	Exhaust duct	20 days																		
48	Combustion Turbine	60 days																		
49	Combustion Turbine Foundation	15 days																		
50	Enclosure	20 days																		
51	CEMS	10 days																		
52	CEMS Building	5 days																		
53	CEMS Building Foundation	5 days																		
54	Stack	40 days																		
55	Stacks	40 days																		
56	Site Buildings	10 days																		
57	Remove Site Buildings	10 days																		
58	Site Prep	65 days																		
59	Final Grading and Drainage	65 days																		
60	Post Dismantlement Activities	40 days																		
61	Post Dismantlement Activities	40 days																		

**HAWTHORN GENERATING STATION
UNITS 7 AND 8**

HAWTHORN GENERATING STATION UNITS 7 AND 8

Hawthorn Generating Station Units 7 and 8 are twin natural gas-fired combustion turbine generator sets that were added to the existing plant in 2000.

Each of these combustion turbines has an SPP-accredited unit rating of 77 MW and is comprised of a General Electric Model 7EA combustion turbine. The pair is interconnected to the grid through a single, three-winding generator step-up transformer arrangement. Each combustion turbine employs dry low NO_x burner technology and burns only natural gas fuel.

The following are the major systems and equipment that were included in the retirement and dismantlement of each unit and the major systems and equipment that were considered common (additional details are listed in the attached retirement and dismantlement schedules included in this Appendix).

HAWTHORN UNITS 7 AND 8

1. Combustion turbine generator sets and auxiliaries (two).
2. Generator step-up and auxiliary transformers (one).
3. Freestanding outdoor switchgear.
4. Exhaust stacks.

COMMON

1. Natural gas filtering skid.
2. Service/Instrument air compressors.

Hawthorn 7 & 8 Retirement

Owner Costs

Pre-Retirement Activities	\$46,506
Retirement Activities	\$186,567
Post-Retirement Activities	\$47,901

Owner Direct Total \$280,973

Owner Internal Costs 5.00% \$14,049

Owner Contingency: 25.00% \$73,755

Hawthorn 7 & 8 Retirement Opinion of Probable Cost: \$368,777

Hawthorn 7 & 8

ID	Task Name	Cost
0	Hawthorn 7 & 8	\$280,973.12
1	Hawthorn 7&8 Retirement	\$280,973.12
2	Pre-Retirement Activities	\$46,505.60
3	Permitting Review	\$24,896.00
4	Develop Detailed Retirement Plan	\$21,609.60
5	Retirement Activities	\$186,566.72
6	Project Management During Retirement	\$104,658.24
7	Project Management During Retirement	\$104,658.24
8	Electrical	\$81,908.48
9	Medium and Low Voltage Drawout Switchgear	\$8,830.08
10	De-energize all buses at the source.	\$981.12
11	Open all circuit breakers.	\$1,962.24
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$1,962.24
13	Verify that the closing/tripping springs are discharged.	\$1,962.24
14	De-energize control power and auxiliary power circuits of each circuit brea	\$1,962.24
15	Motor Control Centers	\$4,905.60
16	De-energize all buses at the source.	\$981.12
17	Open all circuit breakers and disconnect switches.	\$1,962.24
18	Remove all fuses in control circuits.	\$1,962.24
19	Low-voltage Switchboards and Panelboards	\$2,943.36
20	De-energize all buses at the source.	\$981.12
21	Open all circuit breakers and disconnect switches.	\$1,962.24
22	Oil-Filled Power Transformers	\$6,867.84
23	De-energize all buses at the source.	\$981.12
24	Open all circuit breakers and disconnect switches.	\$1,962.24
25	De-energize all buses at the source.	\$1,962.24
26	Open all circuit breakers and disconnect switches.	\$1,962.24
27	Dry-type Power Transformers	\$3,924.48
28	De-energize all transformer primaries and verify that the secondary is de-e	\$1,962.24
29	De-energize all low-voltage AC or DC power sources for space heaters, coo	\$1,962.24
30	Motors	\$6,867.84
31	De-energize all primary power at the source.	\$981.12
32	De-energize all low-voltage power sources for space heaters or other auxil	\$1,962.24
33	Drain lube oil system (if applicable) and dispose of oil.	\$3,924.48
34	Fuel Gas System	\$11,786.24
35	Isolate Fuel Gas System	\$4,264.32
36	Vent Fuel Gas Piping and Equipment	\$2,751.84
37	Open and Vent Knock-Out Drum	\$943.52
38	Drain, Open and Vent the Drain Tank	\$943.52
39	Empty the Coalescing Filter	\$1,939.52
40	Open and Vent Equipment on the CT Gas Valve Module	\$943.52
41	Lube Oil Cooling Water System	\$3,774.08
42	Open and Drain the Water Side of the Lube Oil Coolers	\$2,830.56
43	Open and Vent the Coolers and Expansion Tank	\$943.52
44	Oily Drain Tank	\$4,266.96
45	Open and Pump Out the Oily Drain Tank	\$4,266.96
46	Wash Water Skid	\$5,661.12
47	Open and Drain the Detergent Tank	\$1,887.04
48	Open and Drain the Demineralized Water Tank	\$1,887.04

Hawthorn 7 & 8

ID	Task Name	Cost
49	Empty the Demineralized Water Tank	\$1,887.04
50	Compressed Air	\$1,887.04
51	Empty Dessiccant Air Dryers and Vent	\$943.52
52	Open and Vent the Air Receiver	\$943.52
53	Miscellaneous Piping	\$5,661.12
54	Open and Vent the Exhaust Frame Cooling Piping	\$943.52
55	Open and Vent the CT Air Processing Piping	\$1,887.04
56	Open and Vent the Inlet Air Heating Piping	\$943.52
57	Open and Vent the CT Air Processing Piping	\$1,887.04
58	Fire Protection Piping	\$3,747.84
59	Empty the CO2 Storage Tank	\$2,804.32
60	Open and Vent the Fire Protection Piping	\$943.52
61	Lube Oil System	\$10,784.88
62	Empty and Remove from Site the Lubricating Oil	\$7,010.80
63	Drain Lubricating Oil Piping	\$2,830.56
64	Open and Vent Lubricating Oil Piping	\$943.52
65	Post Retirement Closure Activity	\$47,900.80
66	Post Retirement Closure Activity	\$47,900.80

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3
0	Hawthorn 7 & 8	163 days				
1	Hawthorn 7&8 Retirement	163 days				
2	Pre-Retirement Activities	40 days				
3	Permitting Review	20 days				
4	Develop Detailed Retirement Plan	20 days				
5	Retirement Activities	123 days				
6	Project Management During Retirement	123 days				
7	Project Management During Retirement	123 days				
8	Electrical	79 days				
9	Medium and Low Voltage Drawout Switchgear	9 days				
10	De-energize all buses at the source.	1 day				
11	Open all circuit breakers.	2 days				
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	2 days				
13	Verify that the closing/tripping springs are discharged.	2 days				
14	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	2 days				
15	Motor Control Centers	5 days				
16	De-energize all buses at the source.	1 day				

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3
17	Open all circuit breakers and disconnect switches.	2 days				
18	Remove all fuses in control circuits.	2 days				
19	Low-voltage Switchboards and Panelboards	3 days				
20	De-energize all buses at the source.	1 day				
21	Open all circuit breakers and disconnect switches.	2 days				
22	Oil-Filled Power Transformers	7 days				
23	De-energize all buses at the source.	1 day				
24	Open all circuit breakers and disconnect switches.	2 days				
25	De-energize all buses at the source.	2 days				
26	Open all circuit breakers and disconnect switches.	2 days				
27	Dry-type Power Transformers	4 days				
28	De-energize all transformer primaries and verify that the secondary is de-energized.	2 days				
29	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	2 days				
30	Motors	7 days				
31	De-energize all primary power at the source.	1 day				
32	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	2 days				

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3
33	Drain lube oil system (if applicable) and dispose of oil.	4 days				
34	Fuel Gas System	11 days				
35	Isolate Fuel Gas System	3 days				
36	Vent Fuel Gas Piping and Equipment	3 days				
37	Open and Vent Knock-Out Drum	1 day				
38	Drain, Open and Vent the Drain Tank	1 day				
39	Empty the Coalescing Filter	2 days				
40	Open and Vent Equipment on the CT Gas Valve Module	1 day				
41	Lube Oil Cooling Water System	4 days				
42	Open and Drain the Water Side of the Lube Oil Coolers	3 days				
43	Open and Vent the Coolers and Expansion Tank	1 day				
44	Oily Drain Tank	3 days				
45	Open and Pump Out the Oily Drain Tank	3 days				
46	Wash Water Skid	6 days				
47	Open and Drain the Detergent Tank	2 days				
48	Open and Drain the Demineralized Water Tank	2 days				
49	Empty the Demineralized Water Tank	2 days				
50	Compressed Air	2 days				

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3
51	Empty Dessiccant Air Dryers and Vent	1 day				
52	Open and Vent the Air Reciever	1 day				
53	Miscelleaneous Piping	6 days				
54	Open and Vent the Exhaust Frame Cooling Piping	1 day				
55	Open and Vent the CT Air Processing Piping	2 days				
56	Open and Vent the Inlet Air Heating Piping	1 day				
57	Open and Vent the CT Air Processing Piping	2 days				
58	Fire Protection Piping	3 days				
59	Empty the CO2 Storage Tank	2 days				
60	Open and Vent the Fire Protection Piping	1 day				
61	Lube Oil System	9 days				
62	Empty and Remove from Site the Lubricating Oil	5 days				
63	Drain Lubricating Oil Piping	3 days				
64	Open and Vent Lubricating Oil Piping	1 day				
65	Post Retirement Closure Activity	40 days				
66	Post Retirement Closure Activity	40 days				



Hawthorn 7 & 8 Dismantlement

Owner Costs

Pre-Dismantlement Activities	\$1,104,559
Overhead During Dismantlement	\$1,095,683
Post-Dismantlement Activities	\$34,755

Owner Costs Total \$2,234,997

Demolition General Contractor (DGC) Costs

Site Management	\$529,652
Equipment Rental	\$892,662
Consumables	\$890,575
Scrap Crew(s)	\$230,808
Dismantlement	\$616,951

DGC Insurance 2.00% \$63,213

Contingency/Profit 15.00% \$483,579

Performance Bond 2.00% \$74,149

Contractor Costs Total: \$3,781,588

Total: \$6,016,585

Owner Internal Costs: 5.00% \$300,829

Owner Contingency: 25.00% \$1,579,354

Hawthorn 7 & 8 Dismantlement Opinion of Probable Cost: \$7,896,768

Hawthorn 7&8 Dismantlement

ID	Task Name	Cost
0	Hawthorn 7&8 Dismantlement	\$5,395,644.53
1	Hawthorn 7&8 Dismantlement	\$5,395,644.53
2	Pre-Demolition Activities	\$1,104,558.96
3	Detailed Planning & Hire Owner's Engineer	\$110,802.72
4	Detailed Site Characterization Study	\$783,536.00
5	Hire Demolition general Contractor	\$198,647.04
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20
7	Demolition Contractor Mobilizes on Sit	\$0.00
8	KCP&L Overhead during Dismantlement	\$1,095,682.85
9	KCP&L Project Manager	\$154,460.82
10	KCP&L Administrative Support	\$57,133.21
11	KCP&L Engineer	\$253,912.82
12	Owners Engineer Project Manager	\$77,456.00
13	Owners Engineer - Engineer	\$552,720.00
14	Demolition Contractor Overhead during Dismantlement	\$529,652.45
15	Demolition Contractor Project Manager	\$149,854.81
16	Demolition Contractor Safety Manager	\$133,442.41
17	Demolition Contractor Superintendent	\$246,355.22
18	Demolition Contractor Equipment Rental Cost	\$892,661.69
19	Equipment Rental	\$892,661.69
20	Demolition Contractor Consumables	\$890,574.89
21	Consumables	\$890,574.89
22	Scrap Crews	\$230,807.62
23	Crew to Handle Scrap Material(s)	\$230,807.62
24	Dismantlement	\$616,950.88
25	Electrical	\$206,877.60
26	Electrical Demolition of Equipment	\$206,877.60
27	Fuel Gas System	\$15,921.04
28	Remove all above grade fuel gas piping.	\$4,818.16
29	Gas Filter Skid	\$11,102.88
30	Lube Oil System	\$37,009.60
31	Lube Oil Piping	\$9,252.40
32	Lube Oil Pumps	\$9,252.40
33	Lube Oil Tanks	\$18,504.80
34	Fire Protection	\$40,710.56
35	Fire Protection Piping	\$18,504.80
36	Firewater Tank	\$14,803.84
37	CO2 Storage Tank	\$7,401.92
38	Wash Water Skid	\$14,803.84
39	Detergent Tank	\$7,401.92
40	Demineralized Water Tank	\$7,401.92
41	Miscellaneous Piping	\$51,813.44
42	Exhaust Frame Cooling Piping	\$14,803.84
43	CT Air Processing Piping	\$18,504.80
44	Inlet Air Heating Piping	\$18,504.80
45	Generator	\$0.00
46	Generator	\$0.00
47	Combustion Turbine	\$175,795.60
48	Inlet Heater	\$14,803.84

Hawthorn 7&8 Dismantlement

ID	Task Name	Cost
49	Inlet duct	\$22,205.76
50	Exhaust duct	\$27,757.20
51	Combustion Turbine	\$57,364.88
52	Combustion Turbine Foundation	\$24,056.24
53	Enclosure	\$29,607.68
54	CEMS	\$25,906.72
55	CEMS Building	\$12,953.36
56	CEMS Building Foundation	\$12,953.36
57	Stack	\$48,112.48
58	Stack	\$48,112.48
59	Post Dismantlement Activities	\$34,755.20
60	Post Dismantlement Activities	\$34,755.20

ID	Task Name	Duration	er																	
			Dec	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
0	Hawthorn 7&8 Dismantlement	385 days	▼																	
1	Hawthorn 7&8 Dismantlement	385 days	▶																	
2	Pre-Demolition Activities	130 days	▼																	
3	Detailed Planning & Hire Owner's Engineer	3 mons	▶																	
4	Detailed Site Characterization Study	130 days	▶																	
5	Hire Demolition general Contractor	3 mons	▶																	
6	KCP&L Prepares Unit for Dismantlement	2 wks	▶																	
7	Demolition Contractor Mobilizes on Sit	5 days	▶																	
8	KCP&L Overhead during Dismantlement	235 days	▼																	
9	KCP&L Project Manager	235 days	▶																	
10	KCP&L Administrative Support	235 days	▶																	
11	KCP&L Engineer	235 days	▶																	
12	Owners Engineer Project Manager	235 days	▶																	
13	Owners Engineer - Engineer	235 days	▶																	
14	Demolition Contractor Overhead during Dismantlement	235 days	▼																	
15	Demolition Contractor Project Manager	235 days	▶																	
16	Demolition Contractor Safety Manager	235 days	▶																	

ID	Task Name	Duration	er	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter				
				Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
17	Demolition Contractor Superintendent	235 days		[Blue bar from Dec to Oct]																			
18	Demolition Contractor Equipment Rental Cost	235 days		[Black bar with triangles from Dec to Oct]																			
19	Equipment Rental	235 days		[Blue bar from Dec to Oct]																			
20	Demolition Contractor Consumables	235 days		[Black bar with triangles from Dec to Oct]																			
21	Consumables	235 days		[Blue bar from Dec to Oct]																			
22	Scrap Crews	235 days		[Black bar with triangles from Dec to Oct]																			
23	Crew to Handle Scrap Material(s)	235 days		[Blue bar from Dec to Oct]																			
24	Dismantlement	235 days																					
25	Electrical	90 days																					
26	Electrical Demolition of Equipment	90 days																					
27	Fuel Gas System	14 days																					
28	Remove all above grade fuel gas piping.	8 days																					
29	Gas Filter Skid	6 days																					
30	Lube Oil System	20 days																					
31	Lube Oil Piping	5 days																					
32	Lube Oil Pumps	5 days																					
33	Lube Oil Tanks	10 days																					

ID	Task Name	Duration	er	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter		
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
34	Fire Protection	22 days																			
35	Fire Protection Piping	10 days																			
36	Firewater Tank	8 days																			
37	CO2 Storage Tank	4 days																			
38	Wash Water Skid	8 days																			
39	Detergent Tank	4 days																			
40	Demineralized Water Tank	4 days																			
41	Miscellaneous Piping	28 days																			
42	Exhaust Frame Cooling Piping	8 days																			
43	CT Air Processing Piping	10 days																			
44	Inlet Air Heating Piping	10 days																			
45	Generator	8 days																			
46	Generator	8 days																			
47	Combustion Turbine	95 days																			
48	Inlet Heater	8 days																			
49	Inlet duct	12 days																			
50	Exhaust duct	15 days																			

ID	Task Name	Duration	er																	
			Dec	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
51	Combustion Turbine	31 days																		
52	Combustion Turbine Foundation	13 days																		
53	Enclosure	16 days																		
54	CEMS	14 days																		
55	CEMS Building	7 days																		
56	CEMS Building Foundation	7 days																		
57	Stack	26 days																		
58	Stack	26 days																		
59	Post Dismantlement Activities	20 days																		
60	Post Dismantlement Activities	20 days																		

WEST GARDNER GENERATING STATION

WEST GARDNER GENERATING STATION

The West Gardner Generating Station consists of four natural gas-fired combustion turbine generator sets.

These combustion turbines have a combined SPP-accredited unit rating of 310 MW. West Gardner was placed in service in 2003. Each unit is comprised of a General Electric Model 7EA CT, with a generator step-up transformer and auxiliary power transformer. Each combustion turbine employs dry low NO_x burner technology and burns only natural gas fuel.

The following are the major systems and equipment that were included in the retirement and dismantlement of each unit and the major systems and equipment that were considered common (additional details are listed in the attached retirement and dismantlement schedules included in this Appendix).

WEST GARDNER UNITS 1 THROUGH 4

1. Combustion turbine generator sets and auxiliaries.
2. Generator step-up and auxiliary transformers.
3. Freestanding outdoor switchgear.
4. Exhaust stacks.

COMMON

1. Service building.
2. Natural gas filtering skid.
3. Service/Instrument air compressors.

West Gardner Retirement

Owner Costs

Pre-Retirement Activities	\$46,506
Retirement Activities	\$232,587
Post-Retirement Activities	\$47,901

Owner Direct Total \$326,993

Owner Internal Costs: 5.00% \$16,350

Owner Contingency: 25.00% \$85,836

West Gardner Retirement Opinion of Probable Cost: \$429,179

West Gardner Retirement

ID	Task Name	Cost
0	West Gardner Retirement	\$326,993.36
1	West Gardner Retirement	\$326,993.36
2	Pre-Retirement Activities	\$46,505.60
3	Permitting Review	\$24,896.00
4	Develop Detailed Retirement Plan	\$21,609.60
5	Retirement Activities	\$232,586.96
6	Project Management During Retirement	\$107,210.88
7	Project Management During Retirement	\$107,210.88
8	Electrical	\$59,848.32
9	Medium and Low Voltage Drawout Switchgear	\$17,660.16
10	De-energize all buses at the source.	\$3,924.48
11	Open all circuit breakers.	\$3,924.48
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$3,924.48
13	Verify that the closing/tripping springs are discharged.	\$3,924.48
14	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	\$1,962.24
15	Motor Control Centers	\$7,848.96
16	De-energize all buses at the source.	\$1,962.24
17	Open all circuit breakers and disconnect switches.	\$2,943.36
18	Remove all fuses in control circuits.	\$2,943.36
19	Low-voltage Switchboards and Panelboards	\$7,848.96
20	De-energize all buses at the source.	\$3,924.48
21	Open all circuit breakers and disconnect switches.	\$3,924.48
22	Oil-Filled Power Transformers	\$11,773.44
23	De-energize all buses at the source.	\$2,943.36
24	Open all circuit breakers and disconnect switches.	\$2,943.36
25	De-energize all buses at the source.	\$2,943.36
26	Open all circuit breakers and disconnect switches.	\$2,943.36
27	Dry-type Power Transformers	\$4,905.60
28	De-energize all transformer primaries and verify that the secondary is de-energized.	\$2,943.36

West Gardner Retirement

ID	Task Name	Cost
29	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	\$1,962.24
30	Motors	\$9,811.20
31	De-energize all primary power at the source.	\$2,943.36
32	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	\$2,943.36
33	Drain lube oil system (if applicable) and dispose of oil.	\$3,924.48
34	Fuel Gas System	\$11,786.24
35	Isolate Fuel Gas System	\$4,264.32
36	Vent Fuel Gas Piping and Equipment	\$2,751.84
37	Open and Vent Knock-Out Drum	\$943.52
38	Drain, Open and Vent the Drain Tank	\$943.52
39	Empty the Coalescing Filter	\$1,939.52
40	Open and Vent Equipment on the CT Gas Valve Module	\$943.52
41	Lube Oil Cooling Water System	\$8,491.68
42	Open and Drain the Water Side of the Lube Oil Coolers	\$5,661.12
43	Open and Vent the Coolers and Expansion Tank	\$2,830.56
44	Oily Drain Tank	\$4,266.96
45	Open and Pump Out the Oily Drain Tank	\$4,266.96
46	Wash Water Skid	\$5,661.12
47	Open and Drain the Detergent Tank	\$1,887.04
48	Open and Drain the Demineralized Water Tank	\$1,887.04
49	Empty the Demineralized Water Tank	\$1,887.04
50	Compressed Air	\$3,774.08
51	Empty Dessiccant Air Dryers and Vent	\$1,887.04
52	Open and Vent the Air Reciever	\$1,887.04
53	Miscelleaneous Piping	\$8,491.68
54	Open and Vent the Exhaust Frame Cooling Piping	\$2,830.56
55	Open and Vent the CT Air Processing Piping	\$0.00
56	Open and Vent the Inlet Air Heating Piping	\$2,830.56

West Gardner Retirement

ID	Task Name	Cost
57	Open and Vent the CT Air Processing Piping	\$2,830.56
58	Fire Protection Piping	\$7,495.68
59	Empty the CO2 Storage Tank	\$5,608.64
60	Open and Vent the Fire Protection Piping	\$1,887.04
61	Lube Oil System	\$12,671.92
62	Empty and Remove from Site the Lubricating Oil	\$7,010.80
63	Drain Lubricating Oil Piping	\$3,774.08
64	Open and Vent Lubricating Oil Piping	\$1,887.04
65	Potable Water	\$2,888.40
66	Disconnect Potable Water at Property Boundary	\$2,888.40
67	Post Retirement Closure Activity	\$47,900.80
68	Post Retirement Closure Activity	\$47,900.80

ID	Task Name	Duration	Timeline											
			Dec	1st Quarter			2nd Quarter			3rd Quarter			4th Q	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
0	West Gardner Retirement	206 days	[Gantt bar from Dec to Oct]											
1	West Gardner Retirement	206 days	[Gantt bar from Dec to Oct]											
2	Pre-Retirement Activities	40 days	[Gantt bar from Dec to Feb]											
3	Permitting Review	20 days	[Gantt bar from Jan to Feb]											
4	Develop Detailed Retirement Plan	20 days	[Gantt bar from Jan to Feb]											
5	Retirement Activities	126 days	[Gantt bar from Mar to Sep]											
6	Project Management During Retirement	126 days	[Gantt bar from Mar to Sep]											
7	Project Management During Retirement	126 days	[Gantt bar from Mar to Sep]											
8	Electrical	61 days	[Gantt bar from Mar to May]											
9	Medium and Low Voltage Drawout Switchgear	18 days	[Gantt bar from Mar to Apr]											
10	De-energize all buses at the source.	4 days	[Gantt bar from Mar to Apr]											
11	Open all circuit breakers.	4 days	[Gantt bar from Mar to Apr]											
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	4 days	[Gantt bar from Mar to Apr]											
13	Verify that the closing/tripping springs are discharged.	4 days	[Gantt bar from Mar to Apr]											
14	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	2 days	[Gantt bar from Mar to Apr]											
15	Motor Control Centers	8 days	[Gantt bar from Mar to Apr]											
16	De-energize all buses at the source.	2 days	[Gantt bar from Mar to Apr]											
17	Open all circuit breakers and disconnect switches.	3 days	[Gantt bar from Mar to Apr]											
18	Remove all fuses in control circuits.	3 days	[Gantt bar from Mar to Apr]											
19	Low-voltage Switchboards and Panelboards	8 days	[Gantt bar from Mar to Apr]											
20	De-energize all buses at the source.	4 days	[Gantt bar from Mar to Apr]											

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Q		
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
21	Open all circuit breakers and disconnect switches.	4 days												
22	Oil-Filled Power Transformers	12 days												
23	De-energize all buses at the source.	3 days												
24	Open all circuit breakers and disconnect switches.	3 days												
25	De-energize all buses at the source.	3 days												
26	Open all circuit breakers and disconnect switches.	3 days												
27	Dry-type Power Transformers	5 days												
28	De-energize all transformer primaries and verify that the secondary is de-energized.	3 days												
29	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	2 days												
30	Motors	10 days												
31	De-energize all primary power at the source.	3 days												
32	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	3 days												
33	Drain lube oil system (if applicable) and dispose of oil.	4 days												
34	Fuel Gas System	11 days												
35	Isolate Fuel Gas System	3 days												
36	Vent Fuel Gas Piping and Equipment	3 days												
37	Open and Vent Knock-Out Drum	1 day												
38	Drain, Open and Vent the Drain Tank	1 day												
39	Empty the Coalescing Filter	2 days												
40	Open and Vent Equipment on the CT Gas Valve Module	1 day												
41	Lube Oil Cooling Water System	9 days												

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Q		
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
42	Open and Drain the Water Side of the Lube Oil Coolers	6 days												
43	Open and Vent the Coolers and Expansion Tank	3 days												
44	Oily Drain Tank	3 days												
45	Open and Pump Out the Oily Drain Tank	3 days												
46	Wash Water Skid	6 days												
47	Open and Drain the Detergent Tank	2 days												
48	Open and Drain the Demineralized Water Tank	2 days												
49	Empty the Demineralized Water Tank	2 days												
50	Compressed Air	4 days												
51	Empty Dessiccant Air Dryers and Vent	2 days												
52	Open and Vent the Air Receiver	2 days												
53	Miscellaneous Piping	17 days												
54	Open and Vent the Exhaust Frame Cooling Piping	3 days												
55	Open and Vent the CT Air Processing Piping	8 days												
56	Open and Vent the Inlet Air Heating Piping	3 days												
57	Open and Vent the CT Air Processing Piping	3 days												
58	Fire Protection Piping	6 days												
59	Empty the CO2 Storage Tank	4 days												
60	Open and Vent the Fire Protection Piping	2 days												
61	Lube Oil System	9 days												
62	Empty and Remove from Site the Lubricating Oil	5 days												
63	Drain Lubricating Oil Piping	4 days												
64	Open and Vent Lubricating Oil Piping	2 days												
65	Potable Water	3 days												

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Q
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
66	Disconnect Potable Water at Property Boundary	3 days										
67	Post Retirement Closure Activity	40 days										
68	Post Retirement Closure Activity	40 days										

West Gardner Dismantlement

Owner Costs

Pre-Dismantlement Activities	\$1,104,559
Overhead During Dismantlement	\$1,953,579
Post-Dismantlement Activities	\$52,133

Owner Costs Total \$3,110,271

Demolition General Contractor (DGC) Costs

Site Management	\$944,359
Equipment Rental	\$1,591,597
Consumables	\$1,587,876
Scrap Crew(s)	\$411,525
Dismantlement	\$1,012,014

DGC Insurance 2.00% \$110,947

Contingency/Profit 15.00% \$848,748

Performance Bond 2.00% \$130,141

Contractor Costs Total: \$6,637,207

Total: \$9,747,478

Owner Internal Costs: 5.00% \$487,374

Owner Contingency: 25.00% \$2,558,713

West Gardner Dismantlement Opinion of Probable Cost: \$12,793,564

West Gardner CT Dismantlement		
ID	Task Name	Cost
0	West Gardner CT Dismantlement	\$8,657,641.22
1	West Gardner CT Dismantlement	\$8,657,641.22
2	Pre-Demolition Activities	\$1,104,558.96
3	Detailed Planning & Hire Owner's Engineer	\$110,802.72
4	Detailed Site Characterization Study	\$783,536.00
5	Hire Demolition general Contractor	\$198,647.04
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20
7	Demolition Contractor Mobilizes on Sit	\$0.00
8	KCP&L Overhead during Dismantlement	\$1,953,579.12
9	KCP&L Project Manager	\$275,400.32
10	KCP&L Administrative Support	\$101,867.28
11	KCP&L Engineer	\$452,721.12
12	Owners Engineer Project Manager	\$138,102.40
13	Owners Engineer - Engineer	\$985,488.00
14	Demolition Contractor Overhead during Dismantleme	\$944,358.96
15	Demolition Contractor Project Manager	\$267,187.92
16	Demolition Contractor Safety Manager	\$237,924.96
17	Demolition Contractor Superintendent	\$439,246.08
18	Demolition Contractor Equipment Rental Cost	\$1,591,596.64
19	Equipment Rental	\$1,591,596.64
20	Demolition Contractor Consumables	\$1,587,875.92
21	Consumables	\$1,587,875.92
22	Scrap Crews	\$411,525.04
23	Crew to Handle Scrap Material(s)	\$411,525.04
24	Dismantlement	\$1,012,013.78
25	Electrical	\$252,850.40
26	Electrical Demolition of Equipment	\$252,850.40
27	Fuel Gas System	\$21,814.00
28	Remove all above grade fuel gas piping.	\$7,010.16
29	Gas Filter Skid	\$14,803.84
30	Lube Oil System	\$55,514.40
31	Lube Oil Piping	\$14,803.84
32	Lube Oil Pumps	\$18,504.80
33	Lube Oil Tanks	\$22,205.76
34	Compressed Air System	\$22,205.76
35	Compressed Air Piping	\$11,102.88
36	Compressors	\$5,551.44
37	Air Receiver	\$3,700.96
38	Dryer	\$1,850.48
39	Fire Protection	\$42,561.04
40	Fire Protection Piping	\$20,355.28
41	Firewater Tank	\$14,803.84
42	CO2 Storage Tank	\$7,401.92
43	Wash Water Skid	\$25,906.72

West Gardner CT Dismantlement

ID	Task Name	Cost
44	Detergent Tank	\$11,102.88
45	Demineralized Water Tank	\$14,803.84
46	Miscellaneous Piping	\$64,766.80
47	Exhaust Frame Cooling Piping	\$18,504.80
48	CT Air Processing Piping	\$22,205.76
49	Inlet Air Heating Piping	\$24,056.24
50	Generator	\$0.00
51	Generator	\$0.00
52	Combustion Turbine	\$272,020.56
53	Inlet Heater	\$18,504.80
54	Inlet duct	\$27,757.20
55	Exhaust duct	\$37,009.60
56	Combustion Turbine	\$64,766.80
57	Combustion Turbine Foundation	\$68,467.76
58	Enclosure	\$55,514.40
59	CEMS	\$44,411.52
60	CEMS Building	\$22,205.76
61	CEMS Building Foundation	\$22,205.76
62	Stack	\$83,271.60
63	Stack	\$83,271.60
64	Site Prep	\$126,690.98
65	Final Grading and Drainage	\$126,690.98
66	Post Dismantlement Activities	\$52,132.80
67	Post Dismantlement Activities	\$52,132.80

ID	Task Name	Duration	1st Quarter			1st Quarter			1st Quarter		
			Sep	Jan	May	Sep	Jan	May	Sep	Jan	May
0	West Gardner CT Dismantlement	633 days									
1	West Gardner CT Dismantlement	633 days									
2	Pre-Demolition Activities	130 days									
3	Detailed Planning & Hire Owner's Engineer	3 mons									
4	Detailed Site Characterization Study	130 days									
5	Hire Demolition general Contractor	3 mons									
6	KCP&L Prepares Unit for Dismantlement	2 wks									
7	Demolition Contractor Mobilizes on Sit	5 days									
8	KCP&L Overhead during Dismantlement	419 days									
9	KCP&L Project Manager	419 days									
10	KCP&L Administrative Support	419 days									
11	KCP&L Engineer	419 days									
12	Owners Engineer Project Manager	419 days									
13	Owners Engineer - Engineer	419 days									
14	Demolition Contractor Overhead during Dismantlement	419 days									
15	Demolition Contractor Project Manager	419 days									
16	Demolition Contractor Safety Manager	419 days									
17	Demolition Contractor Superintendent	419 days									
18	Demolition Contractor Equipment Rental Cost	419 days									
19	Equipment Rental	419 days									
20	Demolition Contractor Consumables	419 days									
21	Consumables	419 days									
22	Scrap Crews	419 days									
23	Crew to Handle Scrap Material(s)	419 days									

ID	Task Name	Duration	1st Quarter			1st Quarter			1st Quarter		
			Sep	Jan	May	Sep	Jan	May	Sep	Jan	May
24	Dismantlement	419 days									
25	Electrical	110 days									
26	Electrical Demolition of Equipment	110 days									
27	Fuel Gas System	20 days									
28	Remove all above grade fuel gas piping.	12 days									
29	Gas Filter Skid	8 days									
30	Lube Oil System	30 days									
31	Lube Oil Piping	8 days									
32	Lube Oil Pumps	10 days									
33	Lube Oil Tanks	12 days									
34	Compressed Air System	12 days									
35	Compressed Air Piping	6 days									
36	Compressors	3 days									
37	Air Receiver	2 days									
38	Dryer	1 day									
39	Fire Protection	23 days									
40	Fire Protection Piping	11 days									
41	Firewater Tank	8 days									
42	CO2 Storage Tank	4 days									
43	Wash Water Skid	14 days									
44	Detergent Tank	6 days									
45	Demineralized Water Tank	8 days									
46	Miscellaneous Piping	35 days									
47	Exhaust Frame Cooling Piping	10 days									

ID	Task Name	Duration	1st Quarter			1st Quarter			1st Quarter		
			Sep	Jan	May	Sep	Jan	May	Sep	Jan	May
48	CT Air Processing Piping	12 days									
49	Inlet Air Heating Piping	13 days									
50	Generator	29 days									
51	Generator	29 days									
52	Combustion Turbine	147 days									
53	Inlet Heater	10 days									
54	Inlet duct	15 days									
55	Exhaust duct	20 days									
56	Combustion Turbine	35 days									
57	Combustion Turbine Foundation	37 days									
58	Enclosure	30 days									
59	CEMS	24 days									
60	CEMS Building	12 days									
61	CEMS Building Foundation	12 days									
62	Stack	45 days									
63	Stack	45 days									
64	Site Prep	40 days									
65	Final Grading and Drainage	40 days									
66	Post Dismantlement Activities	30 days									
67	Post Dismantlement Activities	30 days									

OSAWATOMIE GENERATING STATION

OSAWATOMIE GENERATING STATION

The Osawatomie Generating Station is a single natural gas-fired combustion turbine generator set.

This combustion turbine has an SPP-accredited unit rating of 75 MW and was placed in service in 2003. This unit is comprised of a General Electric Model 7EA CT, with a generator step-up transformer and auxiliary power transformer. The combustion turbine employs dry low NO_x burner technology and burns only natural gas fuel.

The following are the major systems and equipment that were included in the retirement and dismantlement of the unit and the major systems and equipment that were considered common (additional details are listed in the attached retirement and dismantlement schedules included in this Appendix).

OSAWATOMIE

1. Combustion turbine generator set with auxiliaries.
2. Generator step-up and auxiliary transformers.
3. Freestanding outdoor switchgear.
4. Exhaust stack.
5. Natural gas filtering skid.
6. Service/Instrument air compressors.

Osawatomie Retirement

Owner Costs

Pre-Retirement Activities	\$46,506
Retirement Activities	\$129,218
Post-Retirement Activities	\$47,901

Owner Direct Total: \$223,624

Owner Internal Costs: 5.00% \$11,181

Owner Contingency: 25.00% \$58,701

Osawatomie Retirement Opinion of Probable Cost: \$293,506

Osawatomie Retirement

ID	Task Name	Cost
0	Osawatomie Retirement	\$223,623.92
1	Osawatomie Retirement	\$223,623.92
2	Pre-Retirement Activities	\$46,505.60
3	Permitting Review	\$24,896.00
4	Develop Detailed Retirement Plan	\$21,609.60
5	Retirement Activities	\$129,217.52
6	Project Management During Retirement	\$68,070.40
7	Project Management During Retirement	\$68,070.40
8	Electrical	\$21,584.64
9	Medium and Low Voltage Drawout Switchgear	\$5,886.72
10	De-energize all buses at the source.	\$981.12
11	Open all circuit breakers.	\$981.12
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$981.12
13	Verify that the closing/tripping springs are discharged.	\$1,962.24
14	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	\$981.12
15	Motor Control Centers	\$2,943.36
16	De-energize all buses at the source.	\$981.12
17	Open all circuit breakers and disconnect switches.	\$981.12
18	Remove all fuses in control circuits.	\$981.12
19	Low-voltage Switchboards and Panelboards	\$1,962.24
20	De-energize all buses at the source.	\$981.12
21	Open all circuit breakers and disconnect switches.	\$981.12
22	Oil-Filled Power Transformers	\$3,924.48
23	De-energize all buses at the source.	\$981.12
24	Open all circuit breakers and disconnect switches.	\$981.12
25	De-energize all buses at the source.	\$981.12
26	Open all circuit breakers and disconnect switches.	\$981.12
27	Dry-type Power Transformers	\$1,962.24
28	De-energize all transformer primaries and verify that the secondary is de-energized.	\$981.12
29	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	\$981.12
30	Motors	\$4,905.60
31	De-energize all primary power at the source.	\$981.12
32	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	\$981.12
33	Drain lube oil system (if applicable) and dispose of oil.	\$2,943.36
34	Fuel Gas System	\$11,786.24
35	Isolate Fuel Gas System	\$4,264.32
36	Vent Fuel Gas Piping and Equipment	\$2,751.84

Osawatomie Retirement

ID	Task Name	Cost
37	Open and Vent Knock-Out Drum	\$943.52
38	Drain, Open and Vent the Drain Tank	\$943.52
39	Empty the Coalescing Filter	\$1,939.52
40	Open and Vent Equipment on the CT Gas Valve Module	\$943.52
41	Lube Oil Cooling Water System	\$2,830.56
42	Open and Drain the Water Side of the Lube Oil Coolers	\$1,887.04
43	Open and Vent the Coolers and Expansion Tank	\$943.52
44	Oily Drain Tank	\$4,266.96
45	Open and Pump Out the Oily Drain Tank	\$4,266.96
46	Wash Water Skid	\$2,830.56
47	Open and Drain the Detergent Tank	\$943.52
48	Open and Drain the Demineralized Water Tank	\$943.52
49	Empty the Demineralized Water Tank	\$943.52
50	Compressed Air	\$1,887.04
51	Empty Dessiccant Air Dryers and Vent	\$943.52
52	Open and Vent the Air Reciever	\$943.52
53	Miscelleaneous Piping	\$3,774.08
54	Open and Vent the Exhaust Frame Cooling Piping	\$943.52
55	Open and Vent the CT Air Processing Piping	\$943.52
56	Open and Vent the Inlet Air Heating Piping	\$943.52
57	Open and Vent the CT Air Processing Piping	\$943.52
58	Fire Protection Piping	\$3,747.84
59	Empty the CO2 Storage Tank	\$2,804.32
60	Open and Vent the Fire Protection Piping	\$943.52
61	Lube Oil System	\$8,439.20
62	Empty and Remove from Site the Lubricating Oil	\$5,608.64
63	Drain Lubricating Oil Piping	\$1,887.04
64	Open and Vent Lubricating Oil Piping	\$943.52
65	Post Retirement Closure Activity	\$47,900.80
66	Post Retirement Closure Activity	\$47,900.80

ID	Task Name	Duration	Quarter	1st Quarter		2nd Quarter		3rd Quarter
			Nov	Jan	Mar	May	Jul	
0	Osawatomie Retirement	134 days		▼		▼		▼
1	Osawatomie Retirement	134 days		▼		▼		▼
2	Pre-Retirement Activities	40 days		▼		▼		▼
3	Permitting Review	20 days		▼	▼		▼	▼
4	Develop Detailed Retirement Plan	20 days		▼	▼		▼	▼
5	Retirement Activities	80 days		▼		▼		▼
6	Project Management During Retirement	80 days		▼		▼		▼
7	Project Management During Retirement	80 days		▼		▼		▼
8	Electrical	22 days		▼		▼		▼
9	Medium and Low Voltage Drawout Switchgear	6 days		▼		▼		▼
10	De-energize all buses at the source.	1 day		▼		▼		▼
11	Open all circuit breakers.	1 day		▼		▼		▼
12	Rack all circuit breakers into the fully withdrawn, disconnected position.	1 day		▼		▼		▼
13	Verify that the closing/tripping springs are discharged.	2 days		▼		▼		▼
14	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	1 day		▼		▼		▼
15	Motor Control Centers	3 days		▼		▼		▼
16	De-energize all buses at the source.	1 day		▼		▼		▼
17	Open all circuit breakers and disconnect switches.	1 day		▼		▼		▼
18	Remove all fuses in control circuits.	1 day		▼		▼		▼
19	Low-voltage Switchboards and Panelboards	2 days		▼		▼		▼
20	De-energize all buses at the source.	1 day		▼		▼		▼

ID	Task Name	Duration	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter
			Nov	Jan	Mar	May
21	Open all circuit breakers and disconnect switches.	1 day				
22	Oil-Filled Power Transformers	4 days				
23	De-energize all buses at the source.	1 day				
24	Open all circuit breakers and disconnect switches.	1 day				
25	De-energize all buses at the source.	1 day				
26	Open all circuit breakers and disconnect switches.	1 day				
27	Dry-type Power Transformers	2 days				
28	De-energize all transformer primaries and verify that the secondary is de-energized.	1 day				
29	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	1 day				
30	Motors	5 days				
31	De-energize all primary power at the source.	1 day				
32	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	1 day				
33	Drain lube oil system (if applicable) and dispose of oil.	3 days				
34	Fuel Gas System	11 days				
35	Isolate Fuel Gas System	3 days				
36	Vent Fuel Gas Piping and Equipment	3 days				
37	Open and Vent Knock-Out Drum	1 day				
38	Drain, Open and Vent the Drain Tank	1 day				
39	Empty the Coalescing Filter	2 days				
40	Open and Vent Equipment on the CT Gas Valve Module	1 day				
41	Lube Oil Cooling Water System	3 days				

ID	Task Name	Duration	Quarter	1st Quarter		2nd Quarter		3rd Quarter
			Nov	Jan	Mar	May	Jul	
42	Open and Drain the Water Side of the Lube Oil Coolers	2 days						
43	Open and Vent the Coolers and Expansion Tank	1 day						
44	Oily Drain Tank	3 days						
45	Open and Pump Out the Oily Drain Tank	3 days						
46	Wash Water Skid	3 days						
47	Open and Drain the Detergent Tank	1 day						
48	Open and Drain the Demineralized Water Tank	1 day						
49	Empty the Demineralized Water Tank	1 day						
50	Compressed Air	2 days						
51	Empty Dessiccant Air Dryers and Vent	1 day						
52	Open and Vent the Air Receiver	1 day						
53	Miscellaneous Piping	4 days						
54	Open and Vent the Exhaust Frame Cooling Piping	1 day						
55	Open and Vent the CT Air Processing Piping	1 day						
56	Open and Vent the Inlet Air Heating Piping	1 day						
57	Open and Vent the CT Air Processing Piping	1 day						
58	Fire Protection Piping	3 days						
59	Empty the CO2 Storage Tank	2 days						
60	Open and Vent the Fire Protection Piping	1 day						
61	Lube Oil System	6 days						
62	Empty and Remove from Site the Lubricating Oil	4 days						
63	Drain Lubricating Oil Piping	2 days						
64	Open and Vent Lubricating Oil Piping	1 day						
65	Post Retirement Closure Activity	40 days						

ID	Task Name	Duration	Quarter	1st Quarter		2nd Quarter		3rd Quarter
			Nov	Jan	Mar	May	Jul	
66	Post Retirement Closure Activity	40 days						

--	--	--	--	--	--	--	--	--

Osawatomie Dismantlement

Owner Costs

Pre-Dismantlement Activities	\$1,104,559
Overhead During Dismantlement	\$787,959
Post-Dismantlement Activities	\$34,755

Owner Costs Total \$1,927,273

Demolition General Contractor (DGC) Costs

Site Management	\$380,899
Equipment Rental	\$641,957
Consumables	\$640,456
Scrap Crew(s)	\$165,985
Dismantlement	\$468,067

DGC Insurance 2.00% \$45,947

Contingency/Profit 15.00% \$351,497

Performance Bond 2.00% \$53,896

Contractor Costs Total: \$2,748,703

Total: \$4,675,977

Owner Internal Costs: 5.00% \$233,799

Owner Contingency: 25.00% \$1,227,444

Osawatomie Dismantlement Opinion of Probable Cost: \$6,137,219

Osawatomie Dismantlement

ID	Task Name	Cost
0	Osawatomie Dismantlement	\$4,224,636.58
1	Osawatomie Dismantlement	\$4,224,636.58
2	Pre-Demolition Activities	\$1,104,558.96
3	Detailed Planning & Hire Owner's Engineer	\$110,802.72
4	Detailed Site Characterization Study	\$783,536.00
5	Hire Demolition general Contractor	\$198,647.04
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20
7	Demolition Contractor Mobilizes on Sit	\$0.00
8	KCP&L Overhead during Dismantlement	\$787,959.12
9	KCP&L Project Manager	\$111,080.32
10	KCP&L Administrative Support	\$41,087.28
11	KCP&L Engineer	\$182,601.12
12	Owners Engineer Project Manager	\$55,702.40
13	Owners Engineer - Engineer	\$397,488.00
14	Demolition Contractor Overhead during Dismantlement	\$380,898.96
15	Demolition Contractor Project Manager	\$107,767.92
16	Demolition Contractor Safety Manager	\$95,964.96
17	Demolition Contractor Superintendent	\$177,166.08
18	Demolition Contractor Equipment Rental Cost	\$641,956.64
19	Equipment Rental	\$641,956.64
20	Demolition Contractor Consumables	\$640,455.92
21	Consumables	\$640,455.92
22	Scrap Crews	\$165,985.04
23	Crew to Handle Scrap Material(s)	\$165,985.04
24	Dismantlement	\$468,066.74
25	Electrical	\$137,918.40
26	Electrical Demolition of Equipment	\$137,918.40
27	Fuel Gas System	\$8,725.60
28	Remove all above grade fuel gas piping.	\$3,174.16
29	Gas Filter Skid	\$5,551.44
30	Lube Oil System	\$18,504.80
31	Lube Oil Piping	\$5,551.44
32	Lube Oil Pumps	\$5,551.44
33	Lube Oil Tanks	\$7,401.92
34	Compressed Air System	\$24,056.24
35	Compressed Air Piping	\$5,551.44
36	Compressors	\$9,252.40
37	Air Receiver	\$3,700.96
38	Dryer	\$5,551.44
39	Fire Protection	\$27,757.20
40	Fire Protection Piping	\$11,102.88
41	Firewater Tank	\$9,252.40
42	CO2 Storage Tank	\$7,401.92
43	Wash Water Skid	\$14,803.84
44	Detergent Tank	\$7,401.92
45	Demineralized Water Tank	\$7,401.92
46	Miscellaneous Piping	\$25,906.72
47	Exhaust Frame Cooling Piping	\$7,401.92
48	CT Air Processing Piping	\$9,252.40

Osawatomie Dismantlement

ID	Task Name	Cost
49	Inlet Air Heating Piping	\$9,252.40
50	Generator	\$0.00
51	Generator	\$0.00
52	Combustion Turbine	\$96,224.96
53	Inlet Heater	\$5,551.44
54	Inlet duct	\$11,102.88
55	Exhaust duct	\$14,803.84
56	Combustion Turbine	\$29,607.68
57	Combustion Turbine Foundation	\$16,654.32
58	Enclosure	\$18,504.80
59	CEMS	\$14,803.84
60	CEMS Building	\$7,401.92
61	CEMS Building Foundation	\$7,401.92
62	Stack	\$27,757.20
63	Stack	\$27,757.20
64	Site Prep	\$71,607.94
65	Final Grading and Drainage	\$71,607.94
66	Post Dismantlement Activities	\$34,755.20
67	Post Dismantlement Activities	\$34,755.20

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter		
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
0	Osawatomie Dismantlement	319 days															
1	Osawatomie Dismantlement	319 days															
2	Pre-Demolition Activities	130 days															
3	Detailed Planning & Hire Owner's Engineer	3 mons															
4	Detailed Site Characterization Study	130 days															
5	Hire Demolition general Contractor	3 mons															
6	KCP&L Prepares Unit for Dismantlement	12.8 wks															
7	Demolition Contractor Mobilizes on Site	5 days															
8	KCP&L Overhead during Dismantlement	169 days															
9	KCP&L Project Manager	169 days															
10	KCP&L Administrative Support	169 days															
11	KCP&L Engineer	169 days															
12	Owners Engineer Project Manager	169 days															
13	Owners Engineer - Engineer	169 days															
14	Demolition Contractor Overhead during Dismantlement	169 days															
15	Demolition Contractor Project Manager	169 days															
16	Demolition Contractor Safety Manager	169 days															
17	Demolition Contractor Superintendent	169 days															
18	Demolition Contractor Equipment Rental Cost	169 days															
19	Equipment Rental	169 days															
20	Demolition Contractor Consumables	169 days															

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter		
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
21	Consumables	169 days	[Blue bar spanning Dec to Sep]														
22	Scrap Crews	169 days	[Black bar spanning Dec to Sep]														
23	Crew to Handle Scrap Material(s)	169 days	[Blue bar spanning Dec to Sep]														
24	Dismantlement	169 days							[Black bar spanning Jul to Mar]								
25	Electrical	60 days							[Black bar spanning Jul to Sep]								
26	Electrical Demolition of Equipment	60 days							[Blue bar spanning Jul to Sep]								
27	Fuel Gas System	8 days							[Black bar spanning Jul to Aug]								
28	Remove all above grade fuel gas piping.	5 days							[Blue bar spanning Jul to Aug]								
29	Gas Filter Skid	3 days							[Blue bar spanning Jul to Aug]								
30	Lube Oil System	10 days							[Black bar spanning Jul to Aug]								
31	Lube Oil Piping	3 days							[Blue bar spanning Jul to Aug]								
32	Lube Oil Pumps	3 days							[Blue bar spanning Jul to Aug]								
33	Lube Oil Tanks	4 days							[Blue bar spanning Jul to Aug]								
34	Compressed Air System	13 days							[Black bar spanning Jul to Aug]								
35	Compressed Air Piping	3 days							[Blue bar spanning Jul to Aug]								
36	Compressors	5 days							[Blue bar spanning Jul to Aug]								
37	Air Receiver	2 days							[Blue bar spanning Jul to Aug]								
38	Dryer	3 days							[Blue bar spanning Jul to Aug]								
39	Fire Protection	15 days							[Black bar spanning Jul to Aug]								
40	Fire Protection Piping	6 days							[Blue bar spanning Jul to Aug]								
41	Firewater Tank	5 days							[Blue bar spanning Jul to Aug]								
42	CO2 Storage Tank	4 days							[Blue bar spanning Jul to Aug]								
43	Wash Water Skid	8 days							[Black bar spanning Jul to Aug]								
44	Detergent Tank	4 days							[Blue bar spanning Jul to Aug]								
45	Demineralized Water Tank	4 days							[Blue bar spanning Jul to Aug]								
46	Miscellaneous Piping	14 days							[Black bar spanning Jul to Aug]								
47	Exhaust Frame Cooling Piping	4 days							[Blue bar spanning Jul to Aug]								
48	CT Air Processing Piping	5 days							[Blue bar spanning Jul to Aug]								

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
49	Inlet Air Heating Piping	5 days																
50	Generator	6 days																
51	Generator	6 days																
52	Combustion Turbine	52 days																
53	Inlet Heater	3 days																
54	Inlet duct	6 days																
55	Exhaust duct	8 days																
56	Combustion Turbine	16 days																
57	Combustion Turbine Foundation	9 days																
58	Enclosure	10 days																
59	CEMS	8 days																
60	CEMS Building	4 days																
61	CEMS Building Foundation	4 days																
62	Stack	15 days																
63	Stack	15 days																
64	Site Prep	20 days																
65	Final Grading and Drainage	20 days																
66	Post Dismantlement Activities	20 days																
67	Post Dismantlement Activities	20 days																

**HAWTHORN GENERATING STATION
UNITS 6 AND 9**

HAWTHORN GENERATING STATION

UNITS 6 AND 9

Hawthorn Units 6 and 9 are a combined-cycle plant that utilizes a combustion turbine generator set equipped with a heat recovery steam generator (HRSG) that utilizes waste heat to produce steam to repower the existing steam turbine generator from the former Unit 4 (re-designated Unit 9) at the Hawthorn Generating Station.

Unit 6 is a Siemens Model V84.3A combustion turbine set that has an SPP-accredited unit rating of 151 MW in simple-cycle configuration when utilizing a bypass damper and stack arrangement. Unit 6 began service in 1997. When Unit 6 is operated in combined-cycle configuration exhausting through the HRSG to produce steam to power the Unit 9 steam turbine generator, the combined SPP-accredited plant rating increases to 232 MW, net. Unit 9 began service in 2000. Each unit is interconnected to the grid through its own generator step-up transformer arrangement. The combustion turbine employs dry low NO_x burner technology and burns only natural gas fuel. The HRSG has an ammonia SCR arrangement to further reduce NO_x emissions.

The following are the major systems and equipment that were included in the retirement and dismantlement of each unit and the major systems and equipment that were considered common (additional details are listed in the attached retirement and dismantlement schedules included in this Appendix).

HAWTHORN UNITS 6 AND 9

1. Combustion turbine generator set and auxiliaries (one)
2. Steam turbine generator set and auxiliaries (one).
2. Generator step-up and auxiliary transformers (two).
3. HRSG and auxiliaries (one).
4. Selective catalytic reduction system, including catalyst and reagent systems (one).

5. Combustion turbine bypass damper and exhaust stack (one).
6. HRSG exhaust stack (one).
7. Circulating water intake structure, circulating water piping, and circulating water equipment (formerly Unit 4).
8. Natural gas filtering skid.
9. Service/Instrument air compressors.

Hawthorn 6 & 9 Retirement

Owner Costs

Pre-Retirement Activities	\$46,506
Retirement Activities	\$232,780
Post-Retirement Activities	\$49,792

Owner Direct Total \$329,078

Owner Internal Costs 5.00% \$16,454

Owner Contingency: 25.00% \$86,383

Hawthorn 6 & 9 Retirement Opinion of Probable Cost: \$431,914

Activities Required by Permit or Regulation

Hawthorn 9 Intake Removal \$679,931

Activities Required by Permit or Regulation: \$679,931

Hawthorn 6&9 Retirement

ID	Task Name	Cost
0	Hawthorn 6&9 Retirement	\$329,077.68
1	Hawthorn 6 & 9 Retirement	\$329,077.68
2	Pre-Retirement Activities	\$46,505.60
3	Permitting Review	\$24,896.00
4	Develop Detailed Retirement Plan	\$21,609.60
5	Retirement Activities	\$232,780.08
6	Project Management During Retirement	\$232,780.08
7	Project Management During Retirement	\$102,105.60
8	CT-6 Retirement Activities	\$54,993.12
9	Electrical	\$21,584.64
10	Medium and Low Voltage Drawout Switchgear	\$5,886.72
11	De-energize all buses at the source.	\$981.12
12	Open all circuit breakers.	\$981.12
13	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$981.12
14	Verify that the closing/tripping springs are discharged.	\$1,962.24
15	De-energize control power and auxiliary power circuits of each circuit	\$981.12
16	Motor Control Centers	\$2,943.36
17	De-energize all buses at the source.	\$981.12
18	Open all circuit breakers and disconnect switches.	\$981.12
19	Remove all fuses in control circuits.	\$981.12
20	Low-voltage Switchboards and Panelboards	\$1,962.24
21	De-energize all buses at the source.	\$981.12
22	Open all circuit breakers and disconnect switches.	\$981.12
23	Oil-Filled Power Transformers	\$3,924.48
24	De-energize all buses at the source.	\$981.12
25	Open all circuit breakers and disconnect switches.	\$981.12
26	De-energize all buses at the source.	\$981.12
27	Open all circuit breakers and disconnect switches.	\$981.12
28	Dry-type Power Transformers	\$1,962.24
29	De-energize all transformer primaries and verify that the secondary is de-energized.	\$981.12
30	De-energize all low-voltage AC or DC power sources for space heaters	\$981.12
31	Motors	\$4,905.60
32	De-energize all primary power at the source.	\$981.12
33	De-energize all low-voltage power sources for space heaters or other	\$981.12
34	Drain lube oil system (if applicable) and dispose of oil.	\$2,943.36
35	Fuel Gas System	\$11,786.24
36	Isolate Fuel Gas System	\$4,264.32
37	Vent Fuel Gas Piping and Equipment	\$2,751.84
38	Open and Vent Knock-Out Drum	\$943.52
39	Drain, Open and Vent the Drain Tank	\$943.52
40	Empty the Coalescing Filter	\$1,939.52
41	Open and Vent Equipment on the CT Gas Valve Module	\$943.52
42	Lube Oil Cooling Water System	\$2,830.56
43	Open and Drain the Water Side of the Lube Oil Coolers	\$1,887.04
44	Open and Vent the Coolers and Expansion Tank	\$943.52
45	Wash Water Skid	\$2,830.56
46	Open and Drain the Detergent Tank	\$943.52
47	Open and Drain the Demineralized Water Tank	\$943.52
48	Empty the Demineralized Water Tank	\$943.52

Hawthorn 6&9 Retirement

ID	Task Name	Cost
49	Miscellaneous Piping	\$3,774.08
50	Open and Vent the Exhaust Frame Cooling Piping	\$943.52
51	Open and Vent the CT Air Processing Piping	\$943.52
52	Open and Vent the Inlet Air Heating Piping	\$943.52
53	Open and Vent the CT Air Processing Piping	\$943.52
54	Fire Protection Piping	\$3,747.84
55	Empty the CO2 Storage Tank	\$2,804.32
56	Open and Vent the Fire Protection Piping	\$943.52
57	Lube Oil System	\$8,439.20
58	Empty and Remove from Site the Lubricating Oil	\$5,608.64
59	Drain Lubricating Oil Piping	\$1,887.04
60	Open and Vent Lubricating Oil Piping	\$943.52
61	Hawthorn 9 Retirement Activities	\$75,681.36
62	Electrical	\$21,584.64
63	Medium and Low Voltage Drawout Switchgear	\$5,886.72
64	De-energize all buses at the source.	\$981.12
65	Open all circuit breakers.	\$981.12
66	Rack all circuit breakers into the fully withdrawn, disconnected position.	\$981.12
67	Verify that the closing/tripping springs are discharged.	\$1,962.24
68	De-energize control power and auxiliary power circuits of each circuit	\$981.12
69	Motor Control Centers	\$2,943.36
70	De-energize all buses at the source.	\$981.12
71	Open all circuit breakers and disconnect switches.	\$981.12
72	Remove all fuses in control circuits.	\$981.12
73	Low-voltage Switchboards and Panelboards	\$1,962.24
74	De-energize all buses at the source.	\$981.12
75	Open all circuit breakers and disconnect switches.	\$981.12
76	Oil-Filled Power Transformers	\$3,924.48
77	De-energize all buses at the source.	\$981.12
78	Open all circuit breakers and disconnect switches.	\$981.12
79	De-energize all buses at the source.	\$981.12
80	Open all circuit breakers and disconnect switches.	\$981.12
81	Dry-type Power Transformers	\$1,962.24
82	De-energize all transformer primaries and verify that the secondary is	\$981.12
83	De-energize all low-voltage AC or DC power sources for space heaters	\$981.12
84	Motors	\$4,905.60
85	De-energize all primary power at the source.	\$981.12
86	De-energize all low-voltage power sources for space heaters or other	\$981.12
87	Drain lube oil system (if applicable) and dispose of oil.	\$2,943.36
88	Boiler Chemical Feed	\$1,834.56
89	Drain all chemical feed tanks.	\$1,834.56
90	HRSG	\$2,856.80
91	Open HRSG doors.	\$969.76
92	Drain boiler, drums, downcomers and headers.	\$917.28
93	Open drum doors.	\$969.76
94	Stack and Ductwork	\$969.76
95	Open ductwork doors.	\$969.76
96	Place cap over stack opening to keep moisture out.	\$0.00
97	Condensate and Feedwater Piping	\$1,834.56

Hawthorn 6&9 Retirement

ID	Task Name	Cost
98	Drain water from the system.	\$917.28
99	Leave open vents and drains.	\$917.28
100	SCR	\$8,660.48
101	Remove catalyst of salvage or disposal.	\$3,879.04
102	Padlock or tack weld access doors shut.	\$969.76
103	Remove ammonia from storage tank for resale.	\$943.52
104	Wash out and drain storage tank and supply piping.	\$943.52
105	Vent storage tank and all piping. Leave vent and drain valves open or rei	\$943.52
106	Pull electrical supply breakers on all electrical equipment except lighting	\$981.12
107	Turbine(s) and Condenser	\$3,367.92
108	Drain hotwell and leave doors open.	\$943.52
109	Open main turbine doors.	\$484.88
110	Open bfp turbine doors.	\$484.88
111	Remove lube oil.	\$1,454.64
112	Generator	\$13,649.12
113	Verify that generator circuit breaker is open and racked out or that high	\$981.12
114	Verify that generator field breaker or contactor (if applicable) is open.	\$981.12
115	De-energize power supplies to generator excitation system at the source	\$981.12
116	De-energize AC and DC power supplies to generator and exciter space h	\$1,962.24
117	Drain lubricating oil system and dispose of oil.	\$2,943.36
118	Drain generator and exciter cooling water systems (if applicable).	\$2,856.80
119	Disconnect and remove hydrogen gas tanks and purge generator hydrog	\$981.12
120	Disconnect and remove fire protection system gas/foam tanks and purg	\$1,962.24
121	Circulating Water and Turbine Cooling Water System	\$3,669.12
122	Drain.	\$1,834.56
123	Open water box doors.	\$917.28
124	Drain any circulating water chemical feed tanks.	\$917.28
125	Compressed Air System	\$3,774.08
126	Open vents and drains.	\$917.28
127	Remove desiccant from desiccant dryers.	\$2,856.80
128	Auxiliary Steam System	\$1,834.56
129	Drain water from system.	\$917.28
130	Remove aux boiler chemicals.	\$917.28
131	Auxiliary Cooling Water System	\$917.28
132	Drain water from system.	\$917.28
133	Condenser Air Extraction and Waterbox Priming System	\$917.28
134	Drain water from system.	\$917.28
135	Battery System	\$9,811.20
136	Turn off battery charger and disconnect cables from batteries.	\$1,962.24
137	De-energize all battery chargers from the source.	\$981.12
138	Open all AC and DC circuit breakers and/or fused switches on battery ch	\$981.12
139	Remove and dispose of battery electrolyte.	\$2,943.36
140	Remove and dispose of battery cells.	\$1,962.24
141	Clean up and dispose of electrolyte on surface areas around batteries.	\$981.12
142	Post Retirement Activities	\$49,792.00
143	Post Retirement Activities	\$49,792.00

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter					
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
0	Hawthorn 6&9 Retirement	160 days	[Summary bar from Dec to Aug]											
1	Hawthorn 6 & 9 Retirement	160 days	[Summary bar from Dec to Aug]											
2	Pre-Retirement Activities	40 days	[Summary bar from Dec to Feb]											
3	Permitting Review	20 days	[Blue bar from Jan to Feb]											
4	Develop Detailed Retirement Plan	20 days	[Blue bar from Feb to Mar]											
5	Retirement Activities	120 days	[Summary bar from Mar to Aug]											
6	Project Management During Retirement	120 days	[Summary bar from Mar to Aug]											
7	Project Management During Retirement	120 days	[Blue bar from Mar to Aug]											
8	CT-6 Retirement Activities	53 days	[Summary bar from Mar to May]											
9	Electrical	22 days	[Summary bar from Mar to Apr]											
10	Medium and Low Voltage Drawout Switchgear	6 days	[Summary bar from Mar to Mar]											
11	De-energize all buses at the source.	1 day	[Blue arrow at Mar]											
12	Open all circuit breakers.	1 day	[Blue arrow at Mar]											
13	Rack all circuit breakers into the fully withdrawn, disconnected position.	1 day	[Blue arrow at Mar]											
14	Verify that the closing/tripping springs are discharged.	2 days	[Blue arrow at Mar]											
15	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	1 day	[Blue arrow at Mar]											

ID	Task Name	Duration	Timeline											
			Dec	1st Quarter			2nd Quarter			3rd Quarter			Sep	
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
16	Motor Control Centers	3 days				■								
17	De-energize all buses at the source.	1 day				▲								
18	Open all circuit breakers and disconnect switches.	1 day				▲								
19	Remove all fuses in control circuits.	1 day				▲								
20	Low-voltage Switchboards and Panelboards	2 days				■								
21	De-energize all buses at the source.	1 day				▲								
22	Open all circuit breakers and disconnect switches.	1 day				▲								
23	Oil-Filled Power Transformers	4 days				■								
24	De-energize all buses at the source.	1 day				▲								
25	Open all circuit breakers and disconnect switches.	1 day				▲								
26	De-energize all buses at the source.	1 day				▲								
27	Open all circuit breakers and disconnect switches.	1 day				▲								
28	Dry-type Power Transformers	2 days				■								
29	De-energize all transformer primaries and verify that the secondary is de-energized.	1 day				▲								
30	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	1 day				▲								

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
31	Motors	5 days										
32	De-energize all primary power at the source.	1 day										
33	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	1 day										
34	Drain lube oil system (if applicable) and dispose of oil.	3 days										
35	Fuel Gas System	11 days										
36	Isolate Fuel Gas System	3 days										
37	Vent Fuel Gas Piping and Equipment	3 days										
38	Open and Vent Knock-Out Drum	1 day										
39	Drain, Open and Vent the Drain Tank	1 day										
40	Empty the Coalescing Filter	2 days										
41	Open and Vent Equipment on the CT Gas Valve Module	1 day										
42	Lube Oil Cooling Water System	3 days										
43	Open and Drain the Water Side of the Lube Oil Coolers	2 days										
44	Open and Vent the Coolers and Expansion Tank	1 day										
45	Wash Water Skid	3 days										
46	Open and Drain the Detergent Tank	1 day										
47	Open and Drain the Demineralized Water Tank	1 day										

ID	Task Name	Duration	Timeline											
			Dec	1st Quarter			2nd Quarter			3rd Quarter			Sep	
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			
48	Empty the Demineralized Water Tank	1 day												
49	Miscellaneous Piping	4 days												
50	Open and Vent the Exhaust Frame Cooling Piping	1 day												
51	Open and Vent the CT Air Processing Piping	1 day												
52	Open and Vent the Inlet Air Heating Piping	1 day												
53	Open and Vent the CT Air Processing Piping	1 day												
54	Fire Protection Piping	3 days												
55	Empty the CO2 Storage Tank	2 days												
56	Open and Vent the Fire Protection Piping	1 day												
57	Lube Oil System	7 days												
58	Empty and Remove from Site the Lubricating Oil	4 days												
59	Drain Lubricating Oil Piping	2 days												
60	Open and Vent Lubricating Oil Piping	1 day												
61	Hawthorn 9 Retirement Activities	80 days												
62	Electrical	22 days												
63	Medium and Low Voltage Drawout Switchgear	6 days												
64	De-energize all buses at the source.	1 day												

ID	Task Name	Duration	Timeline											
			Dec	1st Quarter			2nd Quarter			3rd Quarter				
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
65	Open all circuit breakers.	1 day				▼								
66	Rack all circuit breakers into the fully withdrawn, disconnected position.	1 day				▼								
67	Verify that the closing/tripping springs are discharged.	2 days				▼								
68	De-energize control power and auxiliary power circuits of each circuit breaker at the source and by opening control power circuit breakers or removing fuses in each breaker cubicle.	1 day				▼								
69	Motor Control Centers	3 days				■								
70	De-energize all buses at the source.	1 day				▼								
71	Open all circuit breakers and disconnect switches.	1 day				▼								
72	Remove all fuses in control circuits.	1 day				▼								
73	Low-voltage Switchboards and Panelboards	2 days				■								
74	De-energize all buses at the source.	1 day				▼								
75	Open all circuit breakers and disconnect switches.	1 day				▼								
76	Oil-Filled Power Transformers	4 days				■								
77	De-energize all buses at the source.	1 day				▼								
78	Open all circuit breakers and disconnect switches.	1 day				▼								
79	De-energize all buses at the source.	1 day				▼								
80	Open all circuit breakers and disconnect switches.	1 day				▼								

ID	Task Name	Duration	Timeline											
			Dec	1st Quarter			2nd Quarter			3rd Quarter				
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
81	Dry-type Power Transformers	2 days												
82	De-energize all transformer primaries and verify that the secondary is de-energized.	1 day												
83	De-energize all low-voltage AC or DC power sources for space heaters, cooling equipment, controls, etc. at the source and open circuit breakers or remove fuses at transformer end.	1 day												
84	Motors	5 days												
85	De-energize all primary power at the source.	1 day												
86	De-energize all low-voltage power sources for space heaters or other auxiliary equipment at the source.	1 day												
87	Drain lube oil system (if applicable) and dispose of oil.	3 days												
88	Boiler Chemical Feed	2 days												
89	Drain all chemical feed tanks.	2 days												
90	HRS	3 days												
91	Open HRS doors.	1 day												
92	Drain boiler, drums, downcomers and headers.	1 day												
93	Open drum doors.	1 day												
94	Stack and Ductwork	2 days												
95	Open ductwork doors.	1 day												

ID	Task Name	Duration	Timeline											
			Dec	1st Quarter			2nd Quarter			3rd Quarter				
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
96	Place cap over stack opening to keep moisture out.	1 day					▲							
97	Condensate and Feedwater Piping	2 days					■							
98	Drain water from the system.	1 day					▲							
99	Leave open vents and drains.	1 day					▲							
100	SCR	9 days					■	■						
101	Remove catalyst of salvage or disposal.	4 days					■							
102	Padlock or tack weld access doors shut.	1 day					▲							
103	Remove ammonia from storage tank for resale.	1 day					▲							
104	Wash out and drain storage tank and supply piping.	1 day					▲							
105	Vent storage tank and all piping. Leave vent and drain valves open or remove. Install bird screens.	1 day					▲							
106	Pull electrical supply breakers on all electrical equipment except lighting and HVAC components that are to remain in service.	1 day					▲							
107	Turbine(s) and Condenser	6 days					■	■						
108	Drain hotwell and leave doors open.	1 day					▲							
109	Open main turbine doors.	1 day					▲							
110	Open bfp turbine doors.	1 day					▲							
111	Remove lube oil.	3 days					■							

ID	Task Name	Duration	1st Quarter			2nd Quarter			3rd Quarter			
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
112	Generator	13 days										
113	Verify that generator circuit breaker is open and racked out or that high-voltage disconnect switch on substation side of GSU transformer is locked in the open position.	1 day										
114	Verify that generator field breaker or contactor (if applicable) is open.	1 day										
115	De-energize power supplies to generator excitation system at the source.	1 day										
116	De-energize AC and DC power supplies to generator and exciter space heaters, cooling equipment, controls, lighting, etc. at the source and open circuit breakers or remove fuses at the generator and exciter.	2 days										
117	Drain lubricating oil system and dispose of oil.	3 days										
118	Drain generator and exciter cooling water systems (if applicable).	2 days										
119	Disconnect and remove hydrogen gas tanks and purge generator hydrogen system.	1 day										
120	Disconnect and remove fire protection system gas/foam tanks and purge fire protection system.	2 days										
121	Circulating Water and Turbine Cooling Water System	4 days										
122	Drain.	2 days										
123	Open water box doors.	1 day										
124	Drain any circulating water chemical feed tanks.	1 day										
125	Compressed Air System	3 days										

ID	Task Name	Duration	Timeline											
			Dec	1st Quarter			2nd Quarter			3rd Quarter			Sep	
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
126	Open vents and drains.	1 day												
127	Remove desiccant from desiccant dryers.	2 days												
128	Auxiliary Steam System	2 days												
129	Drain water from system.	1 day												
130	Remove aux boiler chemicals.	1 day												
131	Auxiliary Cooling Water System	1 day												
132	Drain water from system.	1 day												
133	Condenser Air Extraction and Waterbox Priming System	1 day												
134	Drain water from system.	1 day												
135	Battery System	10 days												
136	Turn off battery charger and disconnect cables from batteries.	2 days												
137	De-energize all battery chargers from the source.	1 day												
138	Open all AC and DC circuit breakers and/or fused switches on battery chargers.	1 day												
139	Remove and dispose of battery electrolyte.	3 days												
140	Remove and dispose of battery cells.	2 days												
141	Clean up and dispose of electrolyte on surface areas around batteries.	1 day												
142	Post Retirement Activities	40 days												

ID	Task Name	Duration	Dec	1st Quarter			2nd Quarter			3rd Quarter		
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
143	Post Retirement Activities	40 days										

--	--	--	--	--	--	--	--	--	--	--	--	--

Hawthorn 6 & 9 Dismantlement

Owner Costs

Pre-Dismantlement Activities	\$1,104,559
Overhead During Dismantlement	\$1,454,694
Post-Dismantlement Activities	\$34,755

Owner Costs Total \$2,594,008

Demolition General Contractor (DGC) Costs

Site Management	\$703,198
Equipment Rental	\$1,185,151
Consumables	\$1,182,380
Scrap Crew(s)	\$306,434
Dismantlement	\$1,025,050

DGC Insurance 2.00% \$88,044

Contingency/Profit 15.00% \$673,539

Performance Bond 2.00% \$103,276

Contractor Costs Total: \$5,267,072

Total: \$7,861,080

Owner Internal Costs: 5.00% \$393,054

Owner Contingency: 25.00% \$2,063,534

Hawthorn 6 & 9 Dismantlement Opinion of Probable Cost: \$10,317,668

Hawthorn 6 & 9 Dismantlement

ID	Task Name	Cost
0	Hawthorn 6 & 9 Dismantlement	\$6,996,221.28
1	Hawthorn 6 & 9 Dismantlement	\$6,996,221.28
2	Pre-Demolition Activities	\$1,104,558.96
3	Detailed Planning & Hire Owner's Engineer	\$110,802.72
4	Detailed Site Characterization Study	\$783,536.00
5	Hire Demolition general Contractor	\$198,647.04
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20
7	Demolition Contractor Mobilizes on Sit	\$0.00
8	KCP&L Overhead during Dismantlement	\$1,454,693.76
9	KCP&L Project Manager	\$205,071.36
10	KCP&L Administrative Support	\$75,853.44
11	KCP&L Engineer	\$337,109.76
12	Owners Engineer Project Manager	\$102,835.20
13	Owners Engineer - Engineer	\$733,824.00
14	Demolition Contractor Overhead during Dismantlement	\$703,198.08
15	Demolition Contractor Project Manager	\$198,956.16
16	Demolition Contractor Safety Manager	\$177,166.08
17	Demolition Contractor Superintendent	\$327,075.84
18	Demolition Contractor Equipment Rental Cost	\$1,185,150.72
19	Equipment Rental	\$1,185,150.72
20	Demolition Contractor Consumables	\$1,182,380.16
21	Consumables	\$1,182,380.16
22	Scrap Crews	\$306,433.92
23	Crew to Handle Scrap Material(s)	\$306,433.92
24	Dismantlement	\$1,025,050.48
25	Electrical	\$137,918.40
26	Electrical Demolition of Equipment	\$137,918.40
27	Fuel Gas System	\$8,725.60
28	Remove all above grade fuel gas piping.	\$3,174.16
29	Gas Filter Skid	\$5,551.44
30	Lube Oil System	\$20,355.28
31	Lube Oil Piping	\$5,551.44
32	Lube Oil Pumps	\$5,551.44
33	Lube Oil Tanks	\$9,252.40
34	Compressed Air System	\$24,056.24
35	Compressed Air Piping	\$5,551.44
36	Compressors	\$9,252.40
37	Air Receiver	\$3,700.96
38	Dryer	\$5,551.44
39	Fire Protection	\$33,308.64
40	Fire Protection Piping	\$11,102.88
41	Firewater Tank	\$14,803.84
42	CO2 Storage Tank	\$7,401.92
43	Wash Water Skid	\$14,803.84
44	Detergent Tank	\$7,401.92
45	Demineralized Water Tank	\$7,401.92
46	Miscellaneous Piping	\$94,374.48
47	Exhaust Frame Cooling Piping	\$7,401.92
48	CT Air Processing Piping	\$9,252.40

Hawthorn 6 & 9 Dismantlement

ID	Task Name	Cost
49	Inlet Air Heating Piping	\$9,252.40
50	Auxiliary Steam Piping	\$9,252.40
51	Auxiliary Cooling Piping	\$9,252.40
52	Feedwater Piping	\$12,953.36
53	Condensate Piping	\$14,803.84
54	High Pressure Steam Piping	\$22,205.76
55	Generators	\$14,803.84
56	CT Generator	\$7,401.92
57	ST Generator	\$7,401.92
58	Steam Turbine and Condenser	\$27,757.20
59	Remove Steam Turbine	\$18,504.80
60	Remove Condenser Internals	\$9,252.40
61	General Service Pumps	\$25,906.72
62	Boiler Feed Pumps	\$9,252.40
63	Condensate Pumps	\$5,551.44
64	Turbine Cooling Water Pumps	\$3,700.96
65	General Service Pumps - Misc.	\$7,401.92
66	Combustion Turbine	\$96,224.96
67	Inlet Heater	\$5,551.44
68	Inlet duct	\$11,102.88
69	Exhaust duct	\$14,803.84
70	Combustion Turbine	\$29,607.68
71	Combustion Turbine Foundation	\$16,654.32
72	Enclosure	\$18,504.80
73	Boiler Chemical Feed	\$7,401.92
74	Chemical Feed tanks	\$7,401.92
75	Condenser	\$31,458.16
76	Condenser Air Extraction and Waterbox Priming System	\$7,401.92
77	Condenser External Parts	\$24,056.24
78	HRSG	\$351,591.20
79	Remove Boiler Tubes	\$111,028.80
80	Remove Boiler Ductwork Casing	\$74,019.20
81	Remove Boiler Steel	\$166,543.20
82	Turbine Building	\$62,344.80
83	Remove the Turbine Building	\$62,344.80
84	Circulating Water and Turbine Cooling Water System	\$22,205.76
85	Chemical Feed tanks	\$3,700.96
86	Excavate Collapse and Back Fill Circulation Water Piping	\$18,504.80
87	CEMS	\$14,803.84
88	CEMS Building	\$7,401.92
89	CEMS Building Foundation	\$7,401.92
90	Stack	\$37,009.60
91	Stacks and By-Pass Damper	\$37,009.60
92	Post Dismantlement Activities	\$34,755.20
93	Post Dismantlement Activities	\$34,755.20

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	
1	Hawthorn 6 & 9 Dismantlement	321 days											
2	Pre-Demolition Activities	130 days											
3	Detailed Planning & Hire Owner's Engineer	3 mons											
4	Detailed Site Characterization Study	130 days											
5	Hire Demolition general Contractor	3 mons											
6	KCP&L Prepares Unit for Dismantlement	2 wks											
7	Demolition Contractor Mobilizes on Sit	5 days											
8	KCP&L Overhead during Dismantlement	312 days											
9	KCP&L Project Manager	312 days											
10	KCP&L Administrative Support	312 days											
11	KCP&L Engineer	312 days											
12	Owners Engineer Project Manager	312 days											
13	Owners Engineer - Engineer	312 days											
14	Demolition Contractor Overhead during Dismantlement	312 days											
15	Demolition Contractor Project Manager	312 days											
16	Demolition Contractor Safety Manager	312 days											
17	Demolition Contractor Superintendent	312 days											
18	Demolition Contractor Equipment Rental Cost	312 days											

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
19	Equipment Rental	312 days				[Blue bar spanning Qtr 3, Qtr 4, Qtr 1, Qtr 2, Qtr 3]						
20	Demolition Contractor Consumables	312 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4, Qtr 1, Qtr 2, Qtr 3]						
21	Consumables	312 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4, Qtr 1, Qtr 2, Qtr 3]						
22	Scrap Crews	312 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4, Qtr 1, Qtr 2, Qtr 3]						
23	Crew to Handle Scrap Material(s)	312 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4, Qtr 1, Qtr 2, Qtr 3]						
24	Dismantlement	312 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4, Qtr 1, Qtr 2, Qtr 3]						
25	Electrical	60 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
26	Electrical Demolition of Equipment	60 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
27	Fuel Gas System	8 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
28	Remove all above grade fuel gas piping.	5 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
29	Gas Filter Skid	3 days				[Blue bar with arrowheads spanning Qtr 3, Qtr 4]						
30	Lube Oil System	11 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
31	Lube Oil Piping	3 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
32	Lube Oil Pumps	3 days				[Blue bar with arrowheads spanning Qtr 3, Qtr 4]						
33	Lube Oil Tanks	5 days				[Blue bar with arrowheads spanning Qtr 3, Qtr 4]						
34	Compressed Air System	13 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
35	Compressed Air Piping	3 days				[Black bar with arrowheads spanning Qtr 3, Qtr 4]						
36	Compressors	5 days				[Blue bar with arrowheads spanning Qtr 3, Qtr 4]						

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
37	Air Receiver	2 days										
38	Dryer	3 days										
39	Fire Protection	18 days										
40	Fire Protection Piping	6 days										
41	Firewater Tank	8 days										
42	CO2 Storage Tank	4 days										
43	Wash Water Skid	8 days										
44	Detergent Tank	4 days										
45	Demineralized Water Tank	4 days										
46	Miscellaneous Piping	51 days										
47	Exhaust Frame Cooling Piping	4 days										
48	CT Air Processing Piping	5 days										
49	Inlet Air Heating Piping	5 days										
50	Auxiliary Steam Piping	5 days										
51	Auxiliary Cooling Piping	5 days										
52	Feedwater Piping	7 days										
53	Condensate Piping	8 days										
54	High Pressure Steam Piping	12 days										

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
55	Generators	8 days										
56	CT Generator	4 days										
57	ST Generator	4 days										
58	Steam Turbine and Condenser	15 days										
59	Remove Steam Turbine	10 days										
60	Remove Condenser Internals	5 days										
61	General Service Pumps	14 days										
62	Boiler Feed Pumps	5 days										
63	Condensate Pumps	3 days										
64	Turbine Cooling Water Pumps	2 days										
65	General Service Pumps - Misc.	4 days										
66	Combustion Turbine	52 days										
67	Inlet Heater	3 days										
68	Inlet duct	6 days										
69	Exhaust duct	8 days										
70	Combustion Turbine	16 days										
71	Combustion Turbine Foundation	9 days										
72	Enclosure	10 days										

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
73	Boiler Chemical Feed	4 days						▼				
74	Chemical Feed tanks	4 days						▼				
75	Condenser	17 days						▼				
76	Condenser Air Extraction and Waterbox Priming System	4 days						▼				
77	Condenser External Parts	13 days						▼				
78	HRSG	95 days						▼	—	▼		
79	Remove Boiler Tubes	30 days						▼	↘			
80	Remove Boiler Ductwork Casing	20 days							↘			
81	Remove Boiler Steel	45 days							↘			
82	Turbine Building	15 days								▼		
83	Remove the Turbine Building	15 days								▼		
84	Circulating Water and Turbine Cooling Water System	12 days								▼		
85	Chemical Feed tanks	2 days								▼		
86	Excavate Collapse and Back Fill Circulation Water Piping	10 days								▼		
87	CEMS	8 days						▼				
88	CEMS Building	4 days						▼				
89	CEMS Building Foundation	4 days						▼				
90	Stack	20 days						▼				

ID	Task Name	Duration	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
91	Stacks and By-Pass Damper	20 days										
92	Post Dismantlement Activities	20 days										
93	Post Dismantlement Activities	20 days										

SPEARVILLE WIND GENERATING STATION

SPEARVILLE WIND GENERATING STATION

The Spearville Wind Generating Station consists of 99 wind turbine generators.

Spearville Unit 1 has 67 wind turbines and an SPP-accredited rating of 100.5 MW. Spearville Unit 1 was placed in service in 2006. Spearville Unit 2 has 32 wind turbines and an SPP-accredited rating of 48 MW. Spearville Unit 2 was placed in service in 2010. The turbines are General Electric SLE rated at 1.5 MW each.

The following are the major systems and equipment that were included in the dismantlement of the units.

SPEARVILLE

1. Wind turbine generators.
2. Concrete foundations.
3. Roads.
4. Tower transformers.
5. Underground collection cables.



UNIT 1



Spearville 1 Retirement/Dismantlement⁽¹⁾

Owner Costs

Pre-Dismantlement Activities		\$378,127
Overhead During Dismantlement		\$173,030
Post-Dismantlement Activities		\$34,755

Owner Costs Total \$585,912

Demolition General Contractor (DGC) Costs

Dismantlement		\$17,854,626
DGC Insurance	2.00%	\$357,093
Contingency/Profit	15.00%	\$2,731,758
Performance Bond	2.00%	\$418,870

Contractor Costs Total: \$21,362,346

Total: \$21,948,258

Owner Internal Costs: 5.00% \$1,097,413

Owner Contingency: 25.00% \$5,761,418

Spearville 1 Retirement/Dismantlement Opinion of Probable Cost: \$28,807,088

Spearville 1 Retirement/Dismantlement Opinion of Probable Cost minus ARO: \$16,274,266

Activities Required by Permit or Regulation

Spearville 1 Wind Farm	\$12,532,822	
Activities Required by Permit or Regulation		\$12,532,822

(1) The Spearville Land Lease requires the wind turbines to be dismantled within 12 months of retirement.

ID	Task Name	Remaining	
			W
1	Spearville 1 Dismantlement	\$18,440,539.32	
2	Pre-Demolition Activities	\$378,127.12	
3	Detailed Planning & Hire Owner's Engineer	\$52,258.88	
4	Detailed Site Characterization Study	\$115,648.00	
5	Hire Demolition general Contractor	\$198,647.04	
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20	
7	Demolition Contractor Mobilizes on Site	\$0.00	
8	KCP&L Overhead during Dismantlement	\$173,030.40	
9	KCP&L Project Manager	\$15,774.72	
10	KCP&L Administrative Support	\$5,834.88	
11	KCP&L Engineer	\$64,828.80	
12	Owners Engineer Project Manager	\$39,552.00	
13	Owners Engineer - Engineer	\$47,040.00	
14	Dismantlement Activities	\$17,854,626.60	
15	Dismantlement Minus Freight	\$5,635,873.00	
16	Dismantlement Freight	\$8,830,920.00	
17	Cut Turbine Blades for Scrap Shipment	\$626,457.60	
18	Blade Landfill Cost	\$2,761,376.00	
19	Post Dismantlement Activities	\$34,755.20	
20	Post Dismantlement Activities	\$34,755.20	

ID	Task Name	Duration	Quarter		1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			
			Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1	Spearville 1 Dismantlement	321 days																		
2	Pre-Demolition Activities	165 days																		
3	Detailed Planning & Hire Owner's Engineer	2 mons																		
4	Detailed Site Characterization Study	2 mons																		
5	Hire Demolition general Contractor	3 mons																		
6	KCP&L Prepares Unit for Dismantlement	2 wks																		
7	Demolition Contractor Mobilizes on Site	5 days																		
8	KCP&L Overhead during Dismantlement	120 days																		
9	KCP&L Project Manager	120 days																		
10	KCP&L Administrative Support	120 days																		
11	KCP&L Engineer	120 days																		
12	Owners Engineer Project Manager	120 days																		
13	Owners Engineer - Engineer	120 days																		
14	Dismantlement Activities	120 days																		
15	Dismantlement Minus Freight	120 days																		
16	Dismantlement Freight	120 days																		
17	Cut Turbine Blades for Scrap Shipment	120 days																		
18	Blade Landfill Cost	120 days																		
19	Post Dismantlement Activities	20 days																		
20	Post Dismantlement Activities	20 days																		

UNIT 2: THE HISTORY OF THE UNITED STATES

UNIT 2

UNIT 2: THE HISTORY OF THE UNITED STATES

UNIT 2: THE HISTORY OF THE UNITED STATES

UNIT 2: THE HISTORY OF THE UNITED STATES

UNIT 2: THE HISTORY OF THE UNITED STATES

UNIT 2

UNIT 2

UNIT 2

UNIT 2

UNIT 2

UNIT 2

UNIT 2

UNIT 2

Spearville 2 Retirement/Dismantlement⁽¹⁾

Owner Costs

Pre-Dismantlement Activities		\$378,127
Overhead During Dismantlement		\$86,515
Post-Dismantlement Activities		\$34,755

Owner Costs Total \$499,397

Demolition General Contractor (DGC) Costs

Dismantlement		\$8,248,518
DGC Insurance	2.00%	\$164,970
Contingency/Profit	15.00%	\$1,262,023
Performance Bond	2.00%	\$193,510

Contractor Costs Total: \$9,869,022

Total: \$10,368,419

Owner Internal Costs: 5.00% \$518,421

Owner Contingency: 25.00% \$2,721,710

Spearville 2 Dismantlement Opinion of Probable Cost: \$13,608,549

Spearville 1 Retirement/Dismantlement Opinion of Probable Cost minus ARO: \$8,238,655

Activities Required by Permit or Regulation

Spearville 2 Wind Farm	\$5,369,894	
Activities Required by Permit or Regulation		\$5,369,894

(1) The Spearville Land Lease requires the wind turbines to be dismantled within 12 months of retirement.

ID	Task Name	Remaining	
1	Spearville 2 Dismantlement	\$8,747,915.32	
2	Pre-Demolition Activities	\$378,127.12	
3	Detailed Planning & Hire Owner's Engineer	\$52,258.88	
4	Detailed Site Characterization Study	\$115,648.00	
5	Hire Demolition general Contractor	\$198,647.04	
6	KCP&L Prepares Unit for Dismantlement	\$11,573.20	
7	Demolition Contractor Mobilizes on Sit	\$0.00	
8	KCP&L Overhead during Dismantlement	\$86,515.20	
9	KCP&L Project Manager	\$7,887.36	
10	KCP&L Administrative Support	\$2,917.44	
11	KCP&L Engineer	\$32,414.40	
12	Owners Engineer Project Manager	\$19,776.00	
13	Owners Engineer - Engineer	\$23,520.00	
14	Dismantlement	\$8,248,517.80	
15	Dismantlement Minus Freight	\$4,350,887.00	
16	Dismantlement Freight	\$2,273,222.00	
17	Cut Turbine Blades for Scrap Shipment	\$313,228.80	
18	Blade Landfill Cost	\$1,311,180.00	
19	Post Dismantlement Activities	\$34,755.20	
20	Post Dismantlement Activities	\$34,755.20	

ID	Task Name	Duration	4th Quarter			1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter		
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Spearville 2 Dismantlement	321 days																		
2	Pre-Demolition Activities	165 days																		
3	Detailed Planning & Hire Owner's Engineer	2 mons																		
4	Detailed Site Characterization Study	2 mons																		
5	Hire Demolition general Contractor	3 mons																		
6	KCP&L Prepares Unit for Dismantlement	2 wks																		
7	Demolition Contractor Mobilizes on Sit	5 days																		
8	KCP&L Overhead during Dismantlement	60 days																		
9	KCP&L Project Manager	60 days																		
10	KCP&L Administrative Support	60 days																		
11	KCP&L Engineer	60 days																		
12	Owners Engineer Project Manager	60 days																		
13	Owners Engineer - Engineer	60 days																		
14	Dismantlement	60 days																		
15	Dismantlement Minus Freight	60 days																		
16	Dismantlement Freight	60 days																		
17	Cut Turbine Blades for Scrap Shipment	60 days																		
18	Blade Landfill Cost	60 days																		
19	Post Dismantlement Activities	20 days																		
20	Post Dismantlement Activities	20 days																		

APPENDIX B

OPINION OF COSTS FOR SCRAP

OPINIONS OF SCRAP VALUES

The opinion of scrap value was based on a scrap value of:

1. Mixed Scrap: \$185.00/MT.
2. Insulated Cables: \$1.57/lb.
3. Motors: \$0.15/lb.

These scrap values were taken from www.scrapmonster.com. This website is an industry-recognized source of scrap information that provides daily scrap pricing for the worldwide scrap market.

Attached is a spreadsheet that was developed from the quantities used to build Iatan Unit 1 to calculate the current scrap value of Iatan Unit 1 value rates. Per the attached spreadsheet:

1. Iatan Unit 1 Scrap Value: \$4,660,000.

The AACE International Capacity Factor Method was used to estimate the scrap value of the other coal-fired units. The capacity factor method is based on the following calculation:

$$\text{UnitA}(\text{scrap value}) = \text{Iatan1}(\text{scrap value}) * (\text{CapacityUnitA} / \text{CapacityIatan1})^e$$

Where:

1. UnitA(scrap value) = Unit A Scrap Value.
2. Iatan1(scrap value) = Iatan Unit 1 Scrap Value: \$4,660,000.
3. CapacityUnitA = Capacity of Unit A.
4. CapacityIatan1 = Capacity of Iatan Unit 1: 705 MW.
5. e = Proration Factor: 0.6 per the AACE guidelines.

Therefore, the scrap value of the other coal-fired power plants are as follows:

MONTROSE UNIT 1

1. Capacity A = 170 MW.
2. Scrap Value = \$1,985,000.

MONTROSE UNIT 2

1. Capacity A = 164 MW.
2. Scrap Value = \$1,943,000.

MONTROSE UNIT 3

1. Capacity A = 176 MW.
2. Scrap Value = \$2,027,000.

HAWTHORN UNIT 5

1. Capacity A = 564 MW.
2. Scrap Value = \$4,076,000.

LA CYGNE UNIT 1

1. Capacity A = 735 MW.
2. Scrap Value = \$4,788,000.

LA CYGNE UNIT 2

1. Capacity A = 686 MW.
2. Scrap Value = \$4,584,000.

IATAN UNIT 2

1. Capacity A = 881 MW.
2. Scrap Value = \$5,327,000.

The value of the common portion of these facilities was estimated at approximately 12-percent of the combined scrap values of the units on site.

Therefore:

1. Montrose Common: Scrap Value = \$714,600.
2. Hawthorn Common: Scrap Value = \$489,000.
3. La Cygne Common: Scrap Value = \$1,123,000.
4. Iatan Common: Scrap Value = \$1,198,000.

The scrap value of the combustion turbines was calculated based on the following scrap weights:

1. Combustion Turbine: 250,000 lbs.
2. Generator: 280,000 lbs.
3. Total: 530,000 lbs.
4. Scrap Value (for One Combustion Turbine):
 $(530,000 \text{ lbs}/2204.6 \text{ lbs/ton}) * \$185/\text{MT} = \$44,500$

Therefore:

NORTHEAST

1. (Eight combustion turbines)*\$44,500/CT: Scrap Value = \$356,000.

HAWTHORN UNITS 7 AND 8

1. (Two combustion turbines)*\$44,500/CT: Scrap Value = \$89,000.

WEST GARDNER

1. (Four combustion turbines)*\$44,500/CT: Scrap Value = \$178,000.

OSAWATOMIE

1. (One combustion turbine)*\$44,500/CT Scrap Value = \$44,500.

The scrap value of Hawthorn Units 6 and 9 was calculated in two parts: the scrap value of the CT (Hawthorn Unit 6) and the scrap value of the steam turbine plant (Hawthorn Unit 9):

HAWTHORN UNIT 6

1. (One combustion turbine)*\$44,500/CT: Scrap Value=\$44,500.

HAWTHORN UNIT 9

1. Capacity A = 62 MW: Scrap Value = 1,105,000.

Total Hawthorn Units 6 and 9 Scrap Value: \$1,150,000.

SPEARVILLE

Scrap Value Per Turbine

Tower - 281,275 lbs. steel

Gearbox - 40,000 lbs. steel

Total Steel - 321,275 lbs.

Scrap Value: $(321,275 \text{ lb.} / 2,204.6 \text{ lbs. ton}) * 185 / \text{MT} = \$ 27,0000$

Generator - 18,000 lbs.

Scrap Value: $(18,000 \text{ lb.}) (0.37 / \text{lb}) = \$ 2,700$

Total Scrap Value Per Turbine = \$ 29,700

Scrap Value of Units 1 and 2 Collection Cable = \$ 546,000

Spearville 1 Scrap Value

$(67 \text{ turbines}) (29,700 / \text{turbine}) + (546,000) (67 / 99) = \$ 2,359,000$

Spearville 2 Scrap Value

$(32 \text{ turbines}) (29,700 / \text{turbine}) + (546,000) (32 / 99) = \$ 1,127,000$

Iatan Unit 1 Materials from the Final Construction Report

Mixed Scrap Steel -									
Structural Steel -			11085 Tons					11085 tons	
Handrail -			32647 linear feet		3.65 lbs/ft			60 tons	
Grating -			168244 square feet		10 lbs/ft^2			841 tons	
Coal Silos			285 Tons					285 tons	
Fabricated Pipe 2.5" and Larger	Pipe (linear feet)								
Main Steam	911		28"		424 lbs/ft			193.132 tons	
Hot Reheat	1412		36"		552 lbs/ft			389.712 tons	
Cold Reheat	1173		36"		552 lbs/ft			323.748 tons	
High Pressure Extraction	1400	Assume	6"		28.57 lbs/ft			19.999 tons	
Boiler Safety Valve Vents	1022	Assume	6"		28.57 lbs/ft			14.59927 tons	
Auxiliary Steam	2269	Assume	6"		28.57 lbs/ft			32.412665 tons	
Boiler Vents and Drains	1019	Assume	6"		28.57 lbs/ft			14.556415 tons	
Soot Blower Piping	1729	Assume	6"		28.57 lbs/ft			24.698765 tons	
Temporary Blowout	796	Assume	6"		28.57 lbs/ft			11.37086 tons	
Low Pressure Extraction	902	Assume	6"		28.57 lbs/ft			12.86507 tons	
Turbine Seal and Drains	1085	Assume	6"		28.57 lbs/ft			15.498225 tons	
BPPT Exhaust	25	Assume	6"		28.57 lbs/ft			0.357125 tons	
Boiler Feed Discharge	615	Assume	6"		28.57 lbs/ft			8.785275 tons	
BFP Recirc and Desuper Heat	2556	Assume	6"		28.57 lbs/ft			36.51246 tons	
Boiler Feed Suction	414	Assume	6"		28.57 lbs/ft			5.91399 tons	
Condensate	3901	Assume	6"		28.57 lbs/ft			55.725785 tons	
Air Preheater Piping	5634	Assume	6"		28.57 lbs/ft			80.48169 tons	
Heater Vents and Drains	2013	Assume	6"		28.57 lbs/ft			28.755705 tons	
Heater Drips	2717	Assume	6"		28.57 lbs/ft			38.812345 tons	
Water Pretreatment Piping	221	Assume	6"		28.57 lbs/ft			3.156985 tons	
Chemical Feed	85	Assume	6"		28.57 lbs/ft			1.214225 tons	
Make-Up Water	3924	Assume	6"		28.57 lbs/ft			56.05434 tons	
Ash Sluice Water	6510	Assume	6"		28.57 lbs/ft			92.99535 tons	
Chemical Clean	4892	Assume	6"		28.57 lbs/ft			69.88222 tons	
Nitrogen	918	Assume	6"		28.57 lbs/ft			13.11363 tons	
Auxiliary Cooling Water	6462	Assume	6"		28.57 lbs/ft			92.30967 tons	
Extraction Traps and Drains	1279	Assume	6"		28.57 lbs/ft			18.270515 tons	
Condenser Air Extraction	276	Assume	6"		28.57 lbs/ft			3.94265 tons	
Fuel Oil System	804	Assume	6"		28.57 lbs/ft			11.48514 tons	
Fire Protection System	4017	Assume	6"		28.57 lbs/ft			57.382845 tons	
Service Water	5022	Assume	6"		28.57 lbs/ft			71.73927 tons	
Generator Auxiliaries	196	Assume	6"		28.57 lbs/ft			2.79986 tons	
Turbine Lube Oil	925	Assume	6"		28.57 lbs/ft			13.213625 tons	
Waste Water		Assume	6"		28.57 lbs/ft			0 tons	
Compressed Air System	12255	Assume	6"		28.57 lbs/ft			175.062675 tons	
Building Heating	5438	Assume	6"		28.57 lbs/ft			77.68183 tons	
Screen Wash	96	Assume	6"		28.57 lbs/ft			1.39993 tons	
Bottom Ash Overflow	1032	Assume	6"		28.57 lbs/ft			14.74212 tons	
Fly Ash Disposal	4099	Assume	6"		28.57 lbs/ft			58.554215 tons	
Ash Storage	1313	Assume	6"		28.57 lbs/ft			18.756205 tons	
BFP Seal		Assume	6"		28.57 lbs/ft			0 tons	
Equipment Drains	447	Assume	6"		28.57 lbs/ft			6.385395 tons	
Piping Provided With Equipment	Linear Feet								
Turbine Generator									
Stator Cooling Water	1072	Assume	8"		43.4 lbs/ft			23.2624 tons	
Lube and Seal Oil	1293	Assume	8"		43.4 lbs/ft			28.0581 tons	
Steam Seal	1700	Assume	8"		43.4 lbs/ft			36.89 tons	
ECH	2000	Assume	8"		43.4 lbs/ft			43.4 tons	
Hydrogen	1735	Assume	8"		43.4 lbs/ft			37.6495 tons	
Main Steam Leads	322	Assume	8"		43.4 lbs/ft			6.9874 tons	
Crossover Pipe	90	Assume	8"		43.4 lbs/ft			1.953 tons	

Control Valve Leakoff	237	Assume	8"	43.4	lbs/ft	5,1429	tons
Steam- Generator		Assume	8"	43.4	lbs/ft	0	tons
Coal Bumer	10937	Assume	8"	43.4	lbs/ft	237,3329	tons
Soot Blower	8402	Assume	8"	43.4	lbs/ft	182,3234	tons
Boiler Vents and Drains	4870	Assume	8"	43.4	lbs/ft	105,679	tons
Seal Air	5150	Assume	8"	43.4	lbs/ft	111,755	tons
Start-up Bypass	0	Assume	8"	43.4	lbs/ft	0	tons
Igniter Oil	3702	Assume	8"	43.4	lbs/ft	80,3334	tons
Economizer Connection Pipe	481	Assume	8"	43.4	lbs/ft	10,4377	tons
Ash Handling System		Assume	8"	43.4	lbs/ft	0	tons
Bottom Ash Disposal	3095	Assume	8"	43.4	lbs/ft	67,1615	tons
Pyrites Discharge	939	Assume	8"	43.4	lbs/ft	20,3763	tons
Economizer and Gas Recirc Fly Ash	474	Assume	8"	43.4	lbs/ft	10,2858	tons
Precipitator Fly Ash	4442	Assume	8"	43.4	lbs/ft	96,3914	tons
2' and Under Piping	Linear Feet						
High Pressure Extraction	120	Assume	1"	2.17	lbs/ft	0,1302	tons
Boiler Safety Valve Vents	648	Assume	1"	2.17	lbs/ft	0,70308	tons
Auxiliary Steam	1956	Assume	1"	2.17	lbs/ft	2,13311	tons
Boiler Vents and Drains	2616	Assume	1"	2.17	lbs/ft	2,83836	tons
Soot Blower	545	Assume	1"	2.17	lbs/ft	0,591325	tons
Low Pressure Extraction	105	Assume	1"	2.17	lbs/ft	0,113925	tons
Turbine Seals and Drains	1741	Assume	1"	2.17	lbs/ft	1,888995	tons
Condensate	481	Assume	1"	2.17	lbs/ft	0,521885	tons
Air Preheater	1011	Assume	1"	2.17	lbs/ft	1,096935	tons
Heater Vents and Drains	1845	Assume	1"	2.17	lbs/ft	2,001825	tons
Heater Drips	412	Assume	1"	2.17	lbs/ft	0,44702	tons
Water Pretreatment	895	Assume	1"	2.17	lbs/ft	0,971075	tons
Chemical Feed	3518	Assume	1"	2.17	lbs/ft	3,81703	tons
Make-up Water	2410	Assume	1"	2.17	lbs/ft	2,61485	tons
Ash Sluice Water	324	Assume	1"	2.17	lbs/ft	0,35154	tons
Nitrogen	1340	Assume	1"	2.17	lbs/ft	1,4539	tons
Auxiliary Steam	4500	Assume	1"	2.17	lbs/ft	4,8825	tons
Cooling Water	1398	Assume	1"	2.17	lbs/ft	1,51683	tons
Extraction Traps and Drains	309	Assume	1"	2.17	lbs/ft	0,335265	tons
Fuel oil System	200	Assume	1"	2.17	lbs/ft	0,217	tons
Service Water	778	Assume	1"	2.17	lbs/ft	0,84413	tons
Generator Auxiliaries	4595	Assume	1"	2.17	lbs/ft	4,985575	tons
Turbine Lube Oil	765	Assume	1"	2.17	lbs/ft	0,830025	tons
Coal Handling Equipment Hydraulic Oil System	492	Assume	1"	2.17	lbs/ft	0,53382	tons
Compressed Air	400	Assume	1"	2.17	lbs/ft	0,434	tons
Building Heating	24000	Assume	1"	2.17	lbs/ft	26,04	tons
Screen Wash	7149	Assume	1"	2.17	lbs/ft	7,758665	tons
Miscellaneous Boiler Feedwater		Assume	1"	2.17	lbs/ft	0	tons
Sampling System	439	Assume	1"	2.17	lbs/ft	0,476315	tons
Equipment Drains	426	Assume	1"	2.17	lbs/ft	0,46221	tons
Fly Ash Disposal	6125	Assume	1"	2.17	lbs/ft	6,645625	tons
Sump Pump	62	Assume	1"	2.17	lbs/ft	0,06727	tons
Chemical Clean	68	Assume	1"	2.17	lbs/ft	0,07378	tons
Precipitator							
Precipitator	tons	2,635				2,635	tons
Inlet Duct	tons	741				741	tons
Outlet Duct	tons	615				615	tons
Breeching Duct	tons	225				225	tons
Fly Ash Silo Steel Plat	square feet	12,409		10.2	lbs/ft ²	63,2859	tons
Boiler							
Duct	tons	1,750				1750	tons
Casing	square feet	62,000		10.2	lbs/ft ²	316,2	tons
steam drum	tons	400				400	tons
Boiler	tons	9,800				9800	tons

Air preheaters									
Primary	tons	536						536 tons	
Secondary	tons	832						832 tons	
Mixed Scrap Steel Total								33536 tons	@ 324 \$/GT \$10,865,529
Motors									
	lbs							91943 lbs	@ 0.41 \$/lb \$37,696.63
Cable									
6.9 KV	Linear Feet	115,300		795 lb/1000 ft				91663.5 lbs	
480V, 120V AC and 125V DC	Linear Feet	333,000		548 lb/1000 ft				182484 lbs	
Control	Linear Feet	200,200		141 lb/1000 ft				28228.2 lbs	
Thermocouple and Instrument	Linear Feet	557,000		102 lb/1000 ft				56814 lbs	
Communication	Linear Feet	40,000		102 lb/1000 ft				4080 lbs	
Cable Totals								363270 lbs	@ 1.65 \$/lb \$599,395
Total Opinion of Scrap Value for Iatan 1 and Iatan 1 Common*									
* Common at the time that Iatan Unit 1 was built.									
Assume that 25% of the quantities above are "common facilities"; therefore, the scrap value of Iatan Unit 1 is: \$8,500,000									

APPENDIX C

REFERENCE DOCUMENTS

REFERENCE DOCUMENTS

1. *Decommissioning Handbook for Coal-Fired Power Plants*, EPRI, Palo Alto, CA: 2004. (1011220)
2. *Decommissioning Process for Fossil-Fueled Power Plants*, EPRI, Palo Alto, CA: 2010. (1020652)
3. Association for the Advancement of Cost Estimating (AACE) International, *Skills and Knowledge of Cost Engineering*, 5th Edition, 2004.
4. *Combustion Fossil Power*, Fourth Edition, 1991.
5. *Steam Its Generation and Use*, 40th Edition, 1992.
6. Daniel International Corporation, La Cygne Station - Unit 2, Weekly Progress Report No. 175, October 1, 1976.
7. Black & Veatch, Iatan Steam Generating Station Monthly Progress Report, November 1979.

APPENDIX D

ARO - PERMIT SUMMARY

ARO Permit Summary

				Basis of Requirement
Montrose	Common	\$23,869,916		
	Montrose Fuel Oil Tank Removal		\$264,743	Missouri Regulation 10 CSR 26-5.020 Release Reporting and Initial Release Response Measure:
	Montrose Wastewater Lagoon Removal		\$127,520	10 CSR 20-6.010(12) Closure of Treatment Facilities and 10 CSR 20-6.015 No-Discharge Permits (S) Closure of Waste Storage Structures
	Montrose Landfill Closure	\$2,329,000		Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	Montrose Landfill Post Closure	\$1,874,330		Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	Montrose Ash Pond(s)		\$274,742	Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	Montrose Station Asbestos Removal (total plant)		\$18,999,581	EPA – 40 CFR Part 61 Subpart M Missouri – Missouri Air Conservation Law Sections 643.225 – 643.250 of the Revised Statutes of Missouri Kansas – Kansas Statutes Annotated Chapter 65, Article 53
Hawthorn				
	Unit 5	\$1,271,750		
	Hawthorn 5 Intake Equip, Intake Structures, Levee piping Removal		\$1,271,750	US Army Corps of Engineers Section 10 Permit – Rivers & Harbor Act of March 3, 1899
	Common	\$19,014,090		
	Hawthorn Ash Pond(s)		\$7,840,251	Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	Hawthorn Asbestos Removal		\$11,173,839	EPA – 40 CFR Part 61 Subpart M Missouri – Missouri Air Conservation Law Sections 643.225 – 643.250 of the Revised Statutes of Missouri Kansas – Kansas Statutes Annotated Chapter 65, Article 53
La Cygne	Common	\$93,864,399		
	La Cygne Wastewater Lagoon Removal		\$226,058	28-16-173. Municipal, commercial and industrial wastewater lagoons: closure requirements
	La Cygne Landfill - Closure (total plant)	\$9,954,062		Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	La Cygne Landfill - Post Closure (total plant)		\$6,162,607	Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	La Cygne Ash Pond(s)- Closure (total plant)		\$61,277,411	Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	La Cygne Ash Pond(s) - Post Closure (total plant)		\$10,300,356	Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	La Cygne Station Asbestos Removal (total plant)		\$5,943,906	EPA – 40 CFR Part 61 Subpart M Missouri – Missouri Air Conservation Law Sections 643.225 – 643.250 of the Revised Statutes of Missouri Kansas – Kansas Statutes Annotated Chapter 65, Article 53
Iatan	Common	\$41,291,803		
	Iatan Intake Equip and Intake Structures Removal (total plant)		\$395,036	Missouri Regulation 10 CSR 26-5.020 Release Reporting and Initial Release Response Measure:
	Iatan Fuel Storage (total plant)		\$191,130	Missouri Regulation 10 CSR 26-5.020 Release Reporting and Initial Release Response Measure:
	Iatan Oil Storage (total plant)		\$53,766	Solid Waste Operating Permit No. 0916501
	Iatan Landfill Retirement (total plant)	\$3,415,033		Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
	Iatan Ash Pond(s) (total plant)		\$37,236,839	Disposal of Coal Combustion Residuals from Electric Utilities final rule on December 19, 2014,
Northeast	Common	\$553,553		
	Northeast Fuel Oil Tank Removal		\$553,553	Missouri Regulation 10 CSR 26-5.020 Release Reporting and Initial Release Response Measure:
Hawthorn	6 & 9	\$679,931		
	Hawthorn 9 Intake Removal		\$679,931	US Army Corps of Engineers Section 10 Permit - Rivers & Harbor Act of March 3, 1899
Spearville	Unit 1	\$12,532,822		Spearville Wind Project Decommissioning Agreement dated June 21, 2006
	Unit 2	\$5,396,894		Spearville 2 Wind Project Decommissioning Agreement dated August 24, 2010