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April 2, 2024

ELECTRONIC FILING

Mr. Adam J. Teitzman, Commission Clerk Office of Commission Clerk Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, Florida 32399-0850

Re: Docket 20240026-EI; Petition for Rate Increase by Tampa Electric Company

Dear Mr. Teitzman:

Attached for filing on behalf of Tampa Electric Company in the above-referenced docket is the Direct Testimony of Jeff Kopp and Exhibit No. JK-1.

Thank you for your assistance in connection with this matter.

(Document 13 of 32)

Sincerely,

leffry Wahlen

cc: All parties

JJW/ne Attachment

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 20240026-EI IN RE: PETITION FOR RATE INCREASE BY TAMPA ELECTRIC COMPANY

PREPARED DIRECT TESTIMONY AND EXHIBIT

OF

JEFF KOPP

ON BEHALF OF TAMPA ELECTRIC COMPANY

	l				
1		BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION			
2		PREPARED DIRECT TESTIMONY			
3		OF			
4		JEFF KOPP			
5	ON BEHALF OF TAMPA ELECTRIC COMPANY				
6					
7	Q.	Please state your name, address, occupation, and employer.			
8					
9	A.	My name is Jeffrey (Jeff) T. Kopp, and my business address			
10		is 9400 Ward Parkway, Kansas City, Missouri 64114. I am			
11		employed by 1898 & Co., which is the consulting group			
12		within Burns & McDonnell Engineering Company, Inc. ("1898			
13		& Co."), as the Senior Managing Director of the Energy &			
14		Utilities Consulting Department.			
15					
16	Q.	Please describe your duties and responsibilities in that			
17		position.			
18					
19	A.	I am a professional engineer with 22 years of experience			
20		consulting to electric utilities. I have been involved in			
21		numerous decommissioning studies and served as project			
22		manager or project director on the majority of them. I have			
23		helped prepare decommissioning studies on all types of			
24		power plants, utilizing various technologies and fuels.			
25					

As a Senior Managing Director at 1898 & Co., I oversee a 1 2 group of more than 250 engineers and consultants who provide 3 consulting services to clients primarily in the electric generation and electric power transmission power 4 5 industries, but also to other industrial and commercial clients. The services provided by this group of engineers 6 7 and consultants include decommissioning cost studies, independent engineering assessments of existing power 8 generation evaluations assets, economic of capital 9 expenditures, generation development 10 new power and 11 evaluation, electric and water rate analysis, electric transmission planning, generation resource planning, 12 renewable power development, and other related engineering 13 14 and economic assessments. 15 16 Q. Have you previously testified before the Florida Public Service Commission ("Commission")? 17 18 Yes. I provided direct testimony on behalf of Tampa Electric 19 Α. Company ("Tampa Electric" or the "company") in Docket No. 20 20210034-EI. I provided rebuttal testimony on behalf of 21 Progress Energy Florida, Inc. in Docket No. 20090079-EI in 22 23 support of the dismantlement study I prepared for Progress Energy Florida to support their depreciation rates in that 24

2

filing. I also provided rebuttal testimony on behalf of

	I	
1		Florida Power & Light Company in Docket Nos. 20160021-EI
2		and 20160062-EI and I am currently providing testimony on
3		behalf of Duke Energy Florida in Docket No. 20240025-EI,
4		and I did perform the dismantlement study that was included
5		as an exhibit and approved as part of the settlement in
6		Duke Energy Florida's prior rate case.
7		
8	Q.	Have you previously testified before other state or federal
9		regulatory commissions?
10		
11	A.	Yes. I have provided written or oral testimony in various
12		proceedings listed in Document No. 3 of my Exhibit No. JK-
13		1.
14		
15	Q.	Please provide a brief outline of your educational
16		background and business experience.
17		
18	A.	I have a Bachelor's Degree in Civil Engineering from the
19		University of Missouri - Rolla (now the Missouri University
20		of Science and Technology) and a Masters of Business
21		Administration from the University of Kansas. In my role
22		as a group manager, project manager, and project engineer,
23		I have worked on and have overseen consulting activities
24		for coal, natural gas, wind, solar, hydroelectric, and
25		biomass power generation facilities. I have included my
	1	

	1	
1		resume and curriculum vitae as Document No. 2 of my
2		exhibit.
3		
4	Q.	Do you hold any certifications?
5		
6	A.	Yes, I am a registered professional engineer in the states
7		of Florida, Illinois, Indiana, and Missouri.
8		
9	Q.	What are the purposes of your direct testimony?
10		
11	A.	The purposes of my prepared direct testimony are to (1)
12		discuss the Fleet Decommissioning Cost Study
13		("Dismantlement Study" or "the Study") conducted for Tampa
14		Electric and (2) support the reasonableness of the
15		Dismantlement Study costs included in the company's rate
16		request. The Dismantlement Study is an update of a prior
17		study that I prepared for Tampa Electric to support their
18		filing in Docket No. 20210034-EI.
19		
20	Q.	Have you prepared an exhibit to support your direct
21		testimony?
22		
23	A.	Yes. Exhibit No. JK-1 was prepared under my direction and
24		supervision. My exhibit consists of three documents,
25		entitled:
		4

	Document No. 1 Decommissioning Cost Estimate Study
	Document No. 2 Resume of Jeffrey Kopp
	Document No. 3 List of Proceedings in Which Mr. Kopp
	Has Submitted Testimony
Q.	Are you sponsoring any sections of Tampa Electric's
	Minimum Filing Requirement ("MFR") Schedules?
A.	No.
Q.	Which Tampa Electric generating units does the Study assume
	will be dismantled?
A.	The Study assumes that all units in Tampa Electric's
	generation fleet will be dismantled.
Q.	Are there other witnesses submitting direct testimony in
	this proceeding that addresses dismantlement costs for
	Tampa Electric, and if so, how does their testimony relate
	to your testimony?
A.	Yes. Tampa Electric witness Ned Allis is testifying to and
	sponsoring the depreciation rate calculations. The
	dismantlement costs that I prepared were used as an input
	for end-of-life costs in the depreciation calculations.
	_
	А. Q. А.

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1898 & CO. Experience & Qualifications

Q. What qualifies 1898 & Co. to prepare accurate estimates of dismantlement costs and why should the Commission rely on these estimates?

Over the years, 1898 & Co. has worked closely with Α. 6 7 demolition contractors in developing decommissioning cost estimates in order to more accurately estimate the costs 8 for activities that the demolition contractors will 9 perform. 1898 & Co. has prepared numerous decommissioning 10 11 studies for various clients considering different technologies in several different states and has provided 12 services to clients on decommissioning project execution 13 14 that has included review and evaluation of bids from demolition contractors. 1898 & Co. has utilized this 15 16 experience preparing decommissioning estimates as well as reviewing demolition contractor bids to confirm the 17 reasonableness of the cost estimates prepared by 1898 & Co. 18

20 At the time the company decides to decommission the plants, means and methods will not be dictated to the contractor by 21 22 1898 & Co. It will be the contractor's responsibility to 23 determine means and methods that result in safely decommissioning and dismantling the Plants at the lowest 24 25 possible cost. However, based on 1898 & Co.'s experience with decommissioning projects and discussions with demolition contractors, the costs estimated by 1898 & Co. are reflective of what contractors would bid, through a competitive bidding process given the option to select safe and efficient means and methods.

indicated above, 1898 & Co. has vast experience As 7 in preparation of decommissioning studies, overseeing 8 demolition projects, and executing construction projects. 9 In order to execute over \$2 billion of construction projects 10 11 on an annual basis, 1898 & Co. has to win this work through competitive bidding processes, which requires us to be able 12 to accurately prepare cost estimates. If we routinely 13 14 estimated costs too high, we would not be successful in winning projects. If we routinely estimated costs too low, 15 16 we would not be able to execute projects profitably and would no longer be active in this market. 17

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Our long history, large market presence, and top industry 19 20 rankings demonstrate our ability to effectively and accurately estimate costs. In addition, 21 we have seen 22 competitive bids from demolition contractors for power 23 plant demolition projects, and we have worked with demolition contractors over the years refine 24 to our 25 estimating process for decommissioning studies to align our

1		costs with theirs.
2		
3	1898	& CO. DISMANTLEMENT STUDY
4	Q.	Please describe the purpose of the Dismantlement Study.
5		
6	A.	The company retained 1898 & Co. to provide it with a
7		recommendation regarding the total cost, in 2023 dollars,
8		of dismantlement of each company-owned generation unit at
9		the end of its useful life, as well as the total cost of
10		dismantlement of the common facilities at these generating
11		plants. The total dismantlement cost as determined by 1898
12		& Co. and reflected in the Dismantlement Study is net of
13		salvage value for scrap materials at each plant. 1898 & Co.
14		had previously prepared a similar study for the company in
15		2020 in support of the company's depreciation filing. The
16		current Dismantlement Study serves to update the costs
17		presented in the 2020 study for changes to market
18		conditions, physical changes that have occurred at the
19		plants, and incorporating new facilities that have been
20		constructed or acquired since 2020.
21		
22	Q.	What plants did 1898 & Co. evaluate in the Dismantlement
23		Study?
24		
25	A.	For purposes of the Dismantlement Study, we evaluated the
		8

1	following company-owned electric generating and storage				
2	plants.				
3	• Agrivoltaics Solar				
4	• Alafia Solar				
5	• Balm Solar				
6	• Bayside Power Station				
7	• Big Bend Power Station				
8	• Big Bend Floating Solar				
9	• Big Bend Solar				
10	• Big Bend Solar II				
11	• Bonnie Mine Solar				
12	• Brewster Solar				
13	• Bull Frog Creek Solar				
14	• Cotton Mouth Ranch Solar				
15	• Durrance Solar				
16	• Eastern PVS and ES Solar				
17	• English Creek Solar				
18	• Florida Aquarium Pavilion Solar				
19	• Future Solar Site I				
20	• Future Solar Site II				
21	• Grange Hall Solar				
22	• Jamison Solar				
23	• Juniper Solar				
24	• Lake Hancock Solar				
25	• Lake Mabel Solar				

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1		• Laurel Oaks Solar
2		• Legoland Solar
3		• Lithia Solar
4		• Little Manatee Solar
5		• MacDill Air Force Base RICE and Battery
6		• Magnolia Solar
7		• Mountain View Solar
8		• Payne Creek Solar
9		• Peace Creek Solar
10		• Polk Power Station
11		• Riverside Solar
12		• Tampa International Solar
13		• Wimauma Solar
14		
15	Q.	What was the extent of your personal involvement in the
16		preparation of the Dismantlement Study?
17		
18	A.	I served as the 1898 & Co. BMcD project director on the
19		Dismantlement Study. I worked directly with all individuals
20		and parties involved in the preparation of the
21		dismantlement cost estimates in the Dismantlement Study. I
22		was responsible for the overall project and was involved in
23		the development of the dismantlement assumptions,
24		dismantlement estimating methodology, preparation and
25		review of the estimates, and preparation and review of the
		10

report. 1 2 3 Q. What was the extent of your personal involvement in the preparation of the prior Dismantlement Study prepared for 4 5 Tampa Electric Company? 6 I also served as the 1898 & Co. project director on the 7 Α. prior study and testified to the reasonableness of those 8 costs to support their filings in Docket No. 20210034-EI. 9 10 Did individuals from 1898 & Co. visit each of the sites 11 Q. included in the Dismantlement Study? 12 13 14 Α. No. In 2017, I visited a representative portion of sites for which dismantlement cost estimates were prepared as 15 16 part of a prior study, along with other individuals from 1898 & Co. and representatives from the company. As part of 17 the current Dismantlement Study, individuals from my team 18 re-visited а portion of these sites 19 same and а representative portion of the solar sites. 20 21 What level of dismantlement and demolition did 1898 & Co. 22 Q. 23 assume was performed at each of the sites? 24 The basis of the 1898 & Co. cost estimates was that all 25 Α.

	I	
1		sites will be restored to an industrial condition, suitable
2		for reuse for development of an industrial facility.
3		
4	Q.	What does restoring the sites for industrial use require?
5		
6	A.	The sites will have all above grade buildings and equipment
7		removed, foundations removed to three feet below grade, be
8		rough graded, and seeded. The sites also will have small
9		diameter underground pipes capped and abandoned in place.
10		The sites can remain in this condition in perpetuity, until
11		the site is specifically redeveloped for industrial use.
12		
13	Q.	What process did you follow in preparing the Dismantlement
14		Study?
15		
16	A.	The estimates of dismantlement costs were prepared with the
17		intent of most accurately representing what 1898 & Co. would
18		anticipate contractors bidding to dismantle the equipment,
19		address environmental issues, and restore the site through
20		a competitive bidding process.
21		
22		As outlined in the Dismantlement Study, we prepared these
23		cost estimates by estimating quantities and then applying
24		current market pricing for labor rates, equipment costs,
25		scrap, and disposal costs specific to the area in which the
	1	

	1	
1		work is to be performed. This results in the total cost of
2		dismantlement for each site.
3		
4	Q.	Are there industry-standard methods or inputs used when
5		preparing such a study and what are they?
6		
7	A.	Yes. We reviewed Rule 25-6.04364, Florida Administrative
8		Code, Electric Utilities Dismantlement Studies, as a guide
9		for preparing our study. We also incorporated the
10		methodologies used in prior studies we prepared that have
11		been approved by the Commission and other utility
12		commissions throughout the country. Furthermore, many of
13		the inputs in our estimates come directly from industry
14		standard data sources and publications, including:
15		• RSMeans Heavy Construction Cost
16		o RSMeans is an industry standard publication of
17		construction cost data that is used throughout North
18		America by engineers to prepare construction and
19		demolition cost estimates. The RSMeans database
20		includes adjustments to the base costs based on
21		location, to provide a more accurate estimate for
22		the area in which the project will take place.
23		RSMeans includes data for all types of construction
24		and demolition activities, including materials,
25		labor, hauling, and disposal. RSMeans has been

demolition publishing construction and 1 costs annually since the 1940s. 2 Fastmarkets AMM 3 o Fastmarkets AMM has been in business since they 4 5 began as American Metal Market in 1882. They are the leading publication of metal pricing, including 6 scrap metal pricing. They provide an independent 7 market perspective on metal prices in North America, 8 using data from market transactions. 9 10 Did Tampa Electric provide data to you for use in the Study? 11 Q. 12 13 Α. Yes. 14 What data did the company provide? 15 Ο. 16 The company provided numerous drawings for each of the sites 17 Α. evaluated in the Study. Other documents that had applicable 18 requirements for decommissioning activities were provided 19 as well. 20 21 Please describe the key assumptions of the Dismantlement 22 Q. 23 Study. 24 25 Α. As I stated earlier, the basis of the estimates was that

all sites will be restored to an industrial condition, 1 2 suitable for reuse for development of an industrial 3 facility. We also assumed that all units at each power station will be dismantled as part of a single demolition 4 5 project, therefore, no selective demolition was included in the estimates. Additional assumptions are outlined in 6 Sections 3.1 and 3.2 of the Study in Document No. 1 of my 7 exhibit. 8 9 Please generally explain the types of costs reflected in 10 Q. 11 the Study? 12 Α. The cost estimates reflected in the Dismantlement Study are 13 14 inclusive of direct costs associated with dismantling the plant equipment and facilities and restoring the sites to 15 16 an industrial-ready condition. The direct costs include environmental remediation costs for asbestos removal and 17 other hazardous material handling and disposal, as well as 18 costs for removing and disposing of contaminated soil 19 20 around transformers. The Dismantlement Study does not include any estimates of indirect costs to be incurred by 21 22 the company during dismantlement, nor any contingency 23 costs. Indirect owner's costs and contingency costs were applied by Tampa Electric separate from the Study. 24

15

How were the direct costs estimated for purposes of the 0. 1 2 Study? 3 As part of the Dismantlement Study, site-specific cost Α. 4 5 estimates were developed using а "bottom-up" cost estimating approach, where cost estimates are developed 6 from scratch through the development of 7 site-specific quantity estimates and the application of unit pricing 8 rates to the quantity estimates. 9 10 As outlined in the Dismantlement Study, 1898 & Co. prepared 11 these cost estimates by estimating quantities for existing 12 review equipment based visual inspections, 13 on of 14 engineering drawings, review of 1898 & Co.'s in-house database of plant equipment quantities and using 1898 & 15 16 Co.'s professional judgment. This resulted in an estimate of quantities for the tasks required to be performed for 17 each dismantlement effort. Current market pricing for labor 18 rates and equipment was used to develop unit pricing rates 19 20 for each task. These unit pricing rates were applied to the quantities for the plants to determine the total direct 21 22 cost of dismantlement for each site. Additionally, unit 23 pricing for scrap values was applied to the scrap quantities determine anticipated salvage values, which 24 to were 25 subtracted from the gross direct costs to arrive at a net

1		project cost in 2023 dollars.
2		
3	Q.	Is it your conclusion that the Study results are reasonable
4		estimates?
5		
6	A.	Yes, the Dismantlement Study results and cost estimates are
7		reasonable estimates and are useful for planning purposes.
8		It is appropriate for the company to rely on these estimates
9		for inclusion in their dismantlement reserve needs.
10		
11	SUMM	ARY
12	Q.	Please summarize your direct testimony.
13		
14	A.	The company retained 1898 & Co. to provide it with a
15		recommendation regarding the total cost, in 2023 dollars,
16		of dismantlement of each company-owned generation unit at
17		the end of its useful life as well as the total cost of
18		dismantlement of the common facilities at these generating
19		plants. 1898 & Co. is qualified to prepare dismantlement
20		cost estimates and has vast experience in preparing
21		decommissioning studies, overseeing demolition projects,
22		and executing construction projects. The estimates of
23		dismantlement costs were prepared with the intent of most
24		accurately representing what 1898 & Co. would anticipate
25		contractors bidding through a competitive bidding process

to dismantle the equipment, address environmental issues, 1 2 and restore the site. The Dismantlement Study is consistent 25-6.04364, 3 with Rule Florida Administrative Code, Electric Utilities Dismantlement Studies, incorporates the 4 5 methodologies used in prior studies we prepared that have by the Commission and other approved utility 6 been 7 commissions throughout the country, and incorporates industry standard data. The Study results and cost 8 estimates are reasonable estimates and appropriate for the 9 company to rely on for their dismantlement reserve needs. 10 11 Was the Dismantlement Study attached to your testimony as 12 Q. Document No. 1 of your exhibit prepared by you or under 13 14 your supervision? 15 16 Α. Yes. 17 Are the estimated costs reflected in the Dismantlement 18 Q. Study reasonably reflective of the actual costs necessary 19 to dismantle the company's plants? 20 21 22 Α. Yes, they are. 23 24 Ο. Are these estimated costs appropriate for use in the 25 development of dismantlement accrual for the company's

	1	
1		electric generating plants?
2		
3	A.	Yes.
4		
5	Q.	Does this conclude your direct testimony?
6		
7	A.	Yes, it does.
8		
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11		
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TAMPA ELECTRIC COMPANY

ON BEHALF OF

JEFF KOPP

OF

EXHIBIT

DOCKET NO. 20240026-EI FILED: 04/02/2024

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TECO DECOMMISSIONING COST ESTIMATE STUDY

22

TAMPA ELECTRIC COMPANY

2023 FLEET DECOMMISSIONING STUDY 162002

REVISION 2 November 28, 2023

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	Term/Phrase/Name
1898 & Co.	1898 & Co., a division of Burns & McDonnell Engineering Company, Inc.
BESS	Battery Energy Storage System
BOP	Balance of Plant
C&D	Construction and Demolition
СТ	Combustion Turbine
Client	TECO
GSU	Generator Step Up
HDPE	High Density Polyethlene
HRSG	Heat Recovery Steam Generators
IGCC	Integrated Gasification Combined Cycle
MW	Megawatts
MW-AC	Megawatts Alternating Current
PCBs	Polychlorinated Biphenyls
Plants	Power Generation Assets
RICE	Reciprocating Internal Combustion Engine
ST	Steam Turbine
Study	Decommissioning Cost Study
TECO	Tampa Electric Company



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Executive Summary

Tampa Electric Company ("TECO") retained 1898 & Co., a division of Burns & McDonnell Engineering Company, Inc. (hereinafter called "1898 & Co."), to conduct a Decommissioning Cost Study ("Study") for power generation assets ("Plants") in Florida. The assets include natural gas-fired, coal-fired, battery storage, and solar generating facilities. The purpose of the Study was to review the facilities and to make a recommendation to TECO regarding the total cost to decommission the facilities at the end of their useful lives. The decommissioning costs were developed by 1898 & Co. using information provided by TECO and in-house data available to 1898 & Co.

1898 & Co. has prepared cost estimates in 2023 dollars for the decommissioning of the Plants. These cost estimates are summarized in Table 1-1. When TECO determines that the Plants should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a scrap contractor to offset a portion of the decommissioning costs. TECO will incur costs in the demolition and restoration of the sites less the scrap value of equipment and bulk recycled metals.

Plant	Deo	commissioning Costs	Salvage Credits		Net Project Cost	
Agrivoltaics Solar	\$	126,600	\$	(38,800)	\$	87,800
Balm Solar	\$	18,112,100	\$	(7,390,700)	\$	10,721,400
Bayside	\$	33,045,000	\$	(16,583,000)	\$	16,462,000
Big Bend	\$	86,850,000	\$	(13,018,000)	\$	73,832,000
Big Bend Floating Solar	\$	99,500	\$	(76,100)	\$	23,400
Big Bend Solar	\$	4,321,300	\$	(969,700)	\$	3,351,600
Big Bend Solar Phase 2	\$	1,605,200	\$	(537,900)	\$	1,067,300
Bonnie Mine Solar	\$	7,265,000	\$	(2,211,400)	\$	5,053,600
Durrance Solar	\$	12,169,000	\$	(4,340,200)	\$	7,828,800
Eastern PVS+ES Solar	\$	105,300	\$	(33,700)	\$	71,600
Florida Aquarium Pavilion	\$	12,700	\$	(5,000)	\$	7,700
Grange Hall Solar	\$	11,086,100	\$	(3,628,000)	\$	7,458,100
Jamison Solar	\$	11,175,600	\$	(3,500,400)	\$	7,675,200
Lake Hancock Solar	\$	8,761,000	\$	(2,889,500)	\$	5,871,500
Laurel Oaks Solar	\$	8,305,900	\$	(2,217,600)	\$	6,088,300
Legoland Solar	\$	172,100	\$	(31,100)	\$	141,000
Lithia Solar	\$	13,536,500	\$	(4,272,200)	\$	9,264,300
Little Manatee River	\$	14,167,400	\$	(4,602,400)	\$	9,565,000
MacDill AFB RICE/Battery		2,025,000	\$	(1,267,000)	\$	758,000

Table 1-1:	Decommissioning	Cost Summary	(2023\$)
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Magnolia Solar	\$	12,151,300	\$	(2,631,500)	\$	9,519,800
Mountain View Solar	\$	7,202,000	\$	(1,793,600)	\$	5,408,400
Payne Creek Solar	\$	13,470,500	\$	(4,240,600)	\$	9,229,900
Peace Creek Solar	\$	9,713,400	\$	(3,300,700)	\$	6,412,700
Polk	\$	29,552,000	\$	(13,869,000)	\$	15,683,000
Riverside Solar	\$	8,768,800	\$	(2,092,100)	\$	6,676,700
Tampa International Solar	\$	815,900	\$	(296,100)	\$	519,800
Wimauma Solar	\$	15,414,100	\$	(4,267,300)	\$	11,146,800
	·	Future Solar Sit	tes			
Plant	Decom Costs	missioning	Sal	Salvage Credits Net Project Cost		: Project Cost
Alafia Solar	\$	8,750,200	\$	(2,115,700)	\$	6,634,500
Brewster Solar	\$	5,594,500	\$	(1,591,800)	\$	4,002,700
Bull Frog Creek Solar	\$	10,077,000	\$	(2,567,900)	\$	7,509,100
Cotton Mouth Ranch Solar	\$	10,408,100	\$	(2,550,600)	\$	7,857,500
English Creek Solar	\$	9,424,300	\$	(2,546,600)	\$	6,877,700
Future Solar Site I	\$	10,501,600	\$	(2,367,300)	\$	8,134,300
Future Solar Site II	\$	10,501,600	\$	(2,367,300)	\$	8,134,300
Juniper Solar	\$	10,828,400	\$	(2,332,300)	\$	8,496,100
Lake Mabel	\$	11,269,900	\$	(3,121,600)	\$	8,148,300
TOTAL DECOMISSIONING COST	\$	417,384,900	\$	(121,664,700)	\$	295,720,200

The total net project costs presented above include the costs to return the sites to an industrial condition suitable for reuse for development as an industrial facility. Included are the costs to dismantle all power generating equipment and balance of plant ("BOP") facilities and, where applicable, to perform environmental site restoration activities. Contingency and owner's indirect costs have been excluded from the cost estimates as requested by TECO. However, it is 1898 & Co.'s typical practice and recommendation that 20 percent contingency be included on the direct costs in the estimates prepared as part of this study and that owner indirect costs be included as 5 percent of the direct costs.



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TECO Decommissioning Cost Estimate Study

1.0 Introduction

1.1 Background

1898 & Co. was retained by TECO to conduct a Study for Plants in Florida to estimate the decommissioning costs. The assets include natural gas-fired, coal-fired, battery storage, and solar generating facilities. The purpose of the Study was to review the facilities and to make a recommendation to TECO regarding the total cost to decommission and dismantle the facilities at the end of their useful lives. Individuals from 1898 & Co. visited a representative portion of the Plants evaluated within the Study in August of 2023.

1898 & Co. has prepared over three hundred decommissioning studies on various types of fossil fuel and renewable power plants. In addition to preparing decommissioning cost estimates, 1898 & Co. has supported demolition projects as the owner's engineer. In this capacity, 1898 & Co. has evaluated demolition bids and overseen demolition activities. This has provided 1898 & Co. with insight into a broad range of competitive demolition bids, which also assists in confirming the validity of the decommissioning and dismantling estimates developed by 1898 & Co.

1.2 Methodology

The site decommissioning costs were developed using information provided by TECO and in-house data 1898 & Co. has collected from previous project experience. 1898 & Co. estimated quantities for equipment based on a visual inspection of the facilities, reviews of engineering drawings, an in-house database of plant equipment quantities, and professional judgement. For each Plant, quantities were estimated for each required task. Current market pricing for labor rates and equipment was then developed for each task. The unit pricing was developed for each site based on labor rates, equipment costs, and disposal costs specific to the area in which the work is to be performed. These rates were applied to the quantities for the Plants to determine the total cost of decommissioning and dismantling.

The decommissioning costs include the cost to return the site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to decommission and dismantle all the assets owned by TECO at the sites, including power generating equipment and Balance of Plant facilities.

1.3 Site Visit

Representatives from 1898 & Co. and TECO visited the sites in August of 2023. A representative portion of the sites was visited. The site visits consisted of a tour of each facility listed below, with Plant personnel, to review the equipment installed at each site.



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Plant	Site Visit Day
Big Bend Power Station	August 22, 2023
Big Bend Solar	August 22, 2023
Big Bend Floating Solar	August 22, 2023
Agrivoltaics	August 22, 2023
Florida Aquarium Pavilion Solar	August 23, 2023
Bayside Power Station	August 23, 2023
Eastern PVS+ES Solar	August 23, 2023
Magnolia Solar	August 23, 2023

Table 1-1: Site Visit Dates

Mr. Kevin Payne, from TECO, served as the representative throughout the site visits. The following 1898 & Co. representatives comprised the site team:

- 1. Mr. Carl Turner, Project Manager
- 2. Mr. Stephen Henson, Project Engineer
- Ms. Abby Yi, Lead Project Analyst
 Mr. Marco Barajas, Project Analyst



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2.0 Plant Descriptions

The following sections provide site descriptions for each of the power plants included in this Study.

2.1 Agrivoltaics

Agrivoltaics is a solar farm located in Apollo Beach, Florida. The solar farm reached commercial operation June 2022 and has a total capacity of 1 Megawatt Alternating Current ("MW-AC"). The solar site has 2,688 photovoltaic solar panels and are arranged in 9 fixed-tilt tables in a 70x4 configuration and 1 fixed-tilt table in a 42x4 that provide partial shade to crops growing beneath.

2.2 Alafia Solar

Alafia is a future solar farm. The solar farm is expected to reach commercial operation in December 2023 and has a total planned capacity of 60 MW-AC.

2.3 Balm Solar

Balm Solar is a solar farm located in Hillsborough County, Florida. The solar farm reached commercial operation September 2018 and has a total capacity of 74.4 MW-AC. The solar site has 719,100 photovoltaic solar panels in a 60x3 configuration on fixed-tilt tables.

2.4 Bayside Power Station

Bayside is located just north of Gibsonton, Florida on Port Sutton Road near Tampa Bay. The plant consists of two combined cycle gas turbine powerblocks and four simple cycle units. The facility consists of seven GE 7FA CTs, with associated Heat Recovery Steam Generators ("HRSG"). Three of the combustion turbines ("CT") and HRSG sets, Bayside 1A, 1B, 1C, were utilized to repower the steam turbine ("ST") from Gannon Unit 5 and came online in 2003. Bayside CT and HRSG sets 2A, 2B, 2C, and 2D came online in 2004, repowering the steam turbine from Gannon Unit 6. The facility also includes four Pratt & Whitney TwinPac Units. The remaining facilities at the site, including the common administrative, warehouse, maintenance buildings, water storage tanks, and ponds, are all now considered part of the Bayside Power Station, since the Gannon Unit 6 are now considered part of the Bayside facility along with the entire steam turbine building now that these steam turbine units have been repowered as part of the Bayside Power Station. New traveling screens and an organism return system are in the process of being installed at Bayside and are included in the Study.

2.5 Big Bend Power Station

Big Bend is a coal fired power plant located north of Apollo Beach, Florida and is surrounded by a seawall. The site is roughly 1,500 acres and after its 2022 modernization has a generating capacity of more than 2,000 megawatts ("MW"). The first coal unit came online in 1970, followed by Unit 2 in 1973, Unit 3 in 1976, and Unit 4 in 1985. As part of the modernization project, Unit 1 steam turbine was repowered for combined cycle operation with two (2) GE 7HA.02 combined cycle combustion turbines. In 2009, a 60 MW Pratt & Whitney TwinPac Natural gas peaking unit was added to the plant. Unit 2 was retired in 2022 and Unit 3 was retired in 2023. Unit 4 remains in operation with coal or natural gas. Unit 4 includes selective catalytic reduction systems, air quality control systems, electrostatic precipitators, and flue gas desulfurizers. A barge unloading facility for coal and a limestone unloading handling and storage area are both located onsite. There are several ponds on the premises, including bottom ash ponds and storm water settling ponds, along with slag handling and gypsum handling and storage locations.





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2.6 Big Bend Floating Solar

Big Bend Floating Solar is a solar farm located in Apollo Beach, Florida in an ash pond at the Big Bend Power Station. The solar farm reached commercial operation March 2022 and has a total capacity of 1 MW-AC. The solar site has 3,152 photovoltaic solar panels. The solar site covers approximately 20% of the ash pond and is configured into two groups dependent on the brand of the module. The First Solar module group contains 264 tables in a 6x1 configuration. The Canadian Solar group contains 196 tables in an 8x1 configuration. The inverters at this site are on racks under metal corrugated sheets.

2.7 Big Bend Solar

Big Bend solar is a solar farm located in Apollo Beach, Florida near the Big Bend Power Station. The solar farm reached commercial operation February 2017 and has total capacity of 19,800 kW-AC. The solar site has 200,000 photovoltaic solar panels on a single-axis tracking array. The Big Bend solar farm additionally includes batteries for energy storage.

2.8 Big Bend Solar II

Big Bend solar is a solar farm located in Apollo Beach, Florida near the Big Bend Power Plant. The solar farm reached commercial operation January 2022 and has total capacity of 45,800 kW-AC. The solar site has 116,000 photovoltaic solar panels on single-axis tracking systems.

2.9 Bonnie Mine Solar

Bonnie Mine is a solar farm located in Mulberry, Florida. The solar farm reached commercial operation January 2019 and has a total capacity of 37.5 MW-AC. The solar site has 349,440 photovoltaic solar panels on single-axis tracking systems.

2.10 Brewster Solar¹

Brewster Solar is a future solar project expected to be located in Polk County, Florida. The project has a planned total capacity of 40 MW-AC and is assumed to reach commercial operation in December 2024.

2.11 Bull Frog Creek Solar²

Bull Frog Creek Solar is a future solar project expected to be located in Hillsborough County, Florida. The project has a planned total capacity of 74.5 MW-AC and is assumed to reach commercial operation in December 2025.

2.12 Cotton Mouth Ranch Solar³

Cotton Mouth Ranch solar is a future solar project expected be located in Hillsborough County, Florida. The project has a planned total capacity of 74.5 MW-AC and is assumed to reach commercial operation in December 2025.



¹ Future Solar Site. Property location and name subject to change.

² Future Solar Site. Property location and name subject to change.

³ Future Solar Site. Property location and name subject to change.

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2.13 Durrance Solar

Durrance Solar is a solar farm located in Mulberry, Florida. The solar farm reached commercial operation January 2021 and has a total capacity of 60 MW-AC. The solar site has 585,300 photovoltaic solar panels that are arranged in a 4x15 configuration.

2.14 Eastern PVS+ES Solar

Eastern PVS+ES Solar is a solar generating facility located in Tampa, Florida. The solar site has a total capacity of .8625 MW-AC and contains 2,353 photovoltaic solar panels configured into 5 fixed tables that provide partial shade to parking spots below and charging for electric vehicles.

2.15 English Creek Solar

English Creek Solar is a solar project located in Tampa, Florida. The solar site has a planned total capacity of 74.5 MW-AC and is assumed to include 193,700 photovoltaic solar panels.

2.16 Florida Aquarium Pavilion

Florida Aquarium Pavilion is a solar farm located in Tampa, Florida. The solar farm reached commercial operation June 2021 and has a total capacity of 100 kW-AC. The solar site has 1,140 photovoltaic solar panels arranged on top of the aquarium's pavilion roof.

2.17 Future Solar Site I⁴

Future Solar Site I is a future solar site and is expected to reside on 500 acres in Florida. It is planned to reach commercial operation in 2025, with a planned capacity of 74.5 MW-AC.

2.18 Future Solar Site I⁵

Future Solar Site II is a future solar site and is expected to reside on 500 acres in Florida. It is planned to reach commercial operation in 2025, with a planned capacity of 74.5 MW-AC.

2.19 Grange Hall Solar

Grange Hall is a solar farm located in Wimauma, Florida. The solar farm reached commercial operation in January 2019 and has a total capacity of 61.1 MW-AC. The solar site has 595,260 photovoltaic solar panels that are arranged in 60x3 configuration.

2.20 Jamison Solar

Jamison Solar is a solar farm located in Mulberry, Florida. The solar farm reached commercial operation April 2022 and has a total capacity of 74.5 MW-AC. The solar site has 188,226 photovoltaic solar panels that are arranged on single-axis tracking systems.

2.21 Juniper Solar

Juniper Solar is a future solar project expected to be located in Crystal Springs, Florida. The solar site has a planned total capacity of 70 MW-AC and is assumed to reach commercial operation in December 2023.



⁴ Future Solar Site. Property location and name subject to change.

⁵ Future Solar Site. Property location and name subject to change.

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2.22 Lake Hancock Solar

Lake Hancock Solar is a solar farm located in Bartow, Florida. The solar farm reached commercial operation May 2019 and has a total capacity of 49.6 MW-AC. The solar site has 467,820 photovoltaic solar panels arranged in a 60x3 configuration on fixed-tilt tables.

2.23 Lake Mabel Solar

Lake Mabel Solar is a future solar site expected to be located in Dundee, Florida. The solar site has a planned total capacity of 74.5 MW-AC and is assumed to reach commercial operation in December 2023.

2.24 Laurel Oak Solar

Laurel Oak Solar is a solar farm located in Plant City, Florida. The solar farm reached commercial operation December 2022 and has a total capacity of 61.2 MW-AC. The solar site has 160,386 photovoltaic solar panels arranged on a single-axis tracking system.

2.25 Legoland Solar

Legoland Solar is a solar farm located on the east side of Lake Eloise in Eloise, Florida. There are twelve rows of solar panels that cover the preferred parking lot at the Winter Haven resort and can provide partial shade to approximately 600 vehicles. The solar farm has a total capacity of 1,398 kW-AC and can produce electricity for roughly 200 houses. The project includes 5,218 solar panels.

2.26 Lithia Solar

Lithia Solar is a solar farm located in Lithia, Florida. The solar farm reached commercial operation January 2019 and has a total capacity of 74.5 MW-AC. The solar site has 741,720 photovoltaic solar panels arranged in a 60x4 configuration on fixed tables.

2.27 Little Manatee Solar

Little Manatee Solar is a solar farm located in Ruskin, Florida. The solar farm reached commercial operation in February 2020 and has a total capacity of 74.5 MW-AC. The solar site has 732,600 photovoltaic solar panels arranged in a 15x4 configuration on fixed tables.

2.28 MacDill AFB RICE/Battery

MacDill Air Force Base Reciprocating Internal Combustion Engine ("RICE") and Battery Storage is in Tampa, Florida. The plant has not yet reached commercial operation. The plant is planned to have four Wartsila 18V50SG RICE engines, installed in two phases, and a battery energy storage system.

2.29 Magnolia Solar

Magnolia Solar is a solar farm located in Plant City, Florida. The solar farm reached commercial operation December 2021 and has a total capacity of 74.9 MW-AC. The solar site has 197,646 photovoltaic solar panels arranged in a 6x1 configuration on single-axis tracking systems.

2.30 Mountain View Solar

Mountain View Solar is a solar farm located in Dade City, Florida. The solar farm reached commercial operation April 2022 and has a total capacity of 54.6 MW-AC. The solar site has 142,800 photovoltaic solar panels arranged in a 6x1 configuration on single-axis tracking systems.





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2.31 Payne Creek Solar

Payne Creek Solar is a solar farm located in Bowling Green, Florida. The solar farm reached commercial operation September 2018 and has a total capacity of 70.3 MW-AC. The solar site has 707,940 photovoltaic solar panels arranged in a 3x60 configuration on single-axis tracking systems.

2.32 Peace Creek Solar

Peace Creek Solar is a solar farm located in Bartow, Florida. The solar farm reached commercial operation March 2019 and has a total capacity of 55.4 MW-AC. The solar site has 545,000 photovoltaic solar panels arranged in a 60x3 configuration.

2.33 Polk Power Station

Polk is located south of Pine Island on roughly 4,300 acres south of Lakeland, Florida. The site consists of an integrated gasification combined cycle ("IGCC") plant (Unit 1) and four CTs (CTs 2-5) and one ST. Combustion turbine 2 - 5 and the steam turbine operate in combined cycle mode and are collectively known as "Polk 2." Unit 1 includes a coal gasifier, a GE 7FA CT, a Vogt HRSG and a GE ST. Unit 1 has dual fuel capabilities and can utilize natural gas or syngas from coal or a petcoke and coal blend. The IGCC went into commercial operation 1996. Polk 2 includes 4 GE 7FA combustion turbines that were originally installed as simple cycle units. CT 2 achieved commercial operation in 2000, CT 3 in 2002, and CTs 4 and 5 in 2007. CT 2 and CT 3 are dual fueled, capable of utilizing natural gas or oil. CTs 2-5 each have a nameplate capacity of 165 MW and the ST has a capacity of 460 MW. The facility includes common administrative, warehouse and maintenance buildings. A water treatment plant and cooling tower was also added as part of the Unit 2 combined cycle conversion project.

2.34 Riverside Solar

Riverside Solar is a solar farm located in Ruskin, Florida. The solar farm reached commercial operation December 2022 and has a total capacity of 55 MW-AC. The solar site has 168,464 photovoltaic solar panels arranged in a 6x1 configuration on single-axis tracking systems.

2.35 Tampa International Solar (TIA)

Tampa International Solar is a solar farm located at Tampa International Airport. The panels are positioned on top of the South Economy Parking Garage and can provide partial shade to approximately 800 vehicles. The project has a total capacity of 2,000 kW-AC. The rooftop array consists of 6,175 panels and covers 175,000 feet.

2.36 Wimauma Solar

Wimauma Solar is a solar farm located in Wimauma, Florida. The solar farm reached commercial operation April 2020 and has a total capacity of 74.8 MW-AC. The solar site has 732,420 photovoltaic solar panels arranged in tables of 78x3.



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3.0 Decommissioning Costs

1898 & Co. has prepared decommissioning cost estimates for the Plants. When TECO determines that each site should be retired, the above grade equipment and steel structures are assumed to have scrap value to a scrap contractor which will offset a portion of the site decommissioning costs. However, TECO will incur costs of dismantling the Plants and restoration of the sites to the extent that those costs exceed the scrap value of equipment and bulk steel.

The decommissioning costs for each site include the cost to return each site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to dismantle all the assets at the sites, including power generating equipment and BOP facilities, as well as the costs to perform environmental site restoration activities.

For purposes of this study, 1898 & Co. assumed that each site will be dismantled as a single project, allowing the most cost-effective demolition methods to be utilized. A summary of several of the means and methods that could be employed is provided in the following paragraphs; however, means and methods will not be dictated to the contractor by 1898 & Co. It will be the contractor's responsibility to determine means and methods that result in safely dismantling the Plants at the lowest possible cost.

Asbestos remediation, as required, would take place prior to commencement of any other demolition activities. Abatement would need to be performed in compliance with all state and federal regulations, including, but not limited to, requirements for sealing off work areas and maintaining negative pressure throughout the removal process. Final clearances and approvals would need to be achieved prior to performing further demolition activities.

High grade assets would then be removed from the site to the extent possible. This would include items such as transformers, transformer coils, circuit breakers, electrical wire, condenser plates and tubes, and heater tubes. High grade assets include precious alloys such as copper, aluminum-brass tubes, stainless steel tubes, and other high value metals occurring in plant systems. High grade asset removal would occur up-front in the schedule, to reduce the potential for theft, to increase cash flow, and for separation of recyclable materials to increase scrap recovery. Methods of removal vary with the location and nature of the asset. Small transformers, small equipment, and wire would likely be removed and shipped as-is for processing at a scrap yard. Large transformers, CT, ST generators, and condensers would likely require some on-site disassembly prior to being shipped to a scrap yard.

Construction and Demolition ("C&D") waste includes items such as non-asbestos insulation, roofing, wood, drywall, plastics, and other non-metallic materials. C&D waste would typically be segregated from scrap and concrete to avoid cross-contamination of waste streams or recycle streams. C&D demolition crews could remove these materials with equipment such as excavators equipped with material handling attachments, skid steers, etc. This material would be consolidated and loaded into bulk containers for disposal.

In general, boilers and Heat Recovery Steam Generators could be felled and cut into manageable sized pieces on the ground. First the structures around the boilers would need to be removed using excavators equipped with shears and grapples. Stairs, grating, elevators, and other high structures would be removed using an "ultra-high reach" excavator, equipped with shears. Following removal of these structures, the boilers or HRSGs would be felled, using explosive blasts. The boilers would then be dismantled using equipment such as excavators equipped with shears and grapples, and the scrap metal loaded onto trailers for recycling.





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After the surrounding structures and ductwork have been removed, the stacks would be imploded, using controlled blasts. Following implosion, the stack liners and concrete would be reduced in size to allow for handling and removal.

BOP structures and foundations would likely be demolished using excavators equipped with hydraulic shears, hydraulic grapples, and impact breakers, along with workers utilizing open flame cutting torches. Steel components would be separated, reduced in size, and loaded onto trailers for recycling. Concrete would be broken into manageable sized pieces and stockpiled for crushing on site. Concrete pieces would ultimately be loaded in a hopper and fed through a crusher to be sized for on-site disposal.

3.1 General Assumptions Applicable to All Sites

The Following assumptions are made as the basis of all cost estimates.

- 1. The estimates are inclusive of all costs necessary to properly demolish all structures, equipment, boilers, tanks, conveying and ancillary buildings, and any other associated equipment and buildings to grade level. For the purposes of this Study and the included cost estimates, the sites will be restored to a condition suitable for industrial use.
- 2. Pricing for all estimates is in 2023 dollars.
- 3. For purposes of this Study, it is assumed that all units at the power station will be dismantled as part of a single demolition project.
- 4. Units will be decommissioned to zero generating output. Existing utilities will remain in place for use by the contractor for the duration of the demolition activities.
- 5. All work will take place in the most cost-efficient method.
- 6. Labor costs are based on non-Union labor rates for a 40-hour workweek.
- 7. Soil testing and any other on-site testing has not been conducted for this Study. Any environmental clean-up or removal costs are based on previous testing or assumed levels of contamination.
- 8. The only environmental costs that are included to address cleanup of contaminated soils, hazardous materials, or other conditions present on-site having a negative environmental impact, are specifically listed under assumptions. No allowances are included for unforeseen environmental remediation activities.
- 9. TECO will remove or consume all fuel oil and chemicals to the reasonable extent possible prior to commencement of demolition activities. Costs for these activities are not included in the estimate. Costs are included in the estimates for cleaning and flushing fuel oil tanks and lines. Costs have also been included to remove one foot of soil directly below each of the fuel oil tanks to account for the potential for this soil to be contaminated during normal operations.
- 10. Soil around the generator step-up ("GSU") transformers and other large transformers will be excavated to a depth of three feet and transported off-site for disposal. It is assumed that the polychlorinated biphenyl ("PCB") concentrations are below 50 ppm and will not be required to be disposed in a Toxic Substances and Control Act permitted landfill.
- 11. All burnable coal will be consumed by the plant prior to commencing decommissioning activities. TECO will remove fuel oil, limestone piles, and chemicals prior to commencement of demolition activities. The area underneath the coal piles will be excavated to a depth of two feet below grade to remove any residual coal. This coal soil mix will be disposed of offsite, and this area will be covered with eighteen inches of soil and six inches of topsoil.
- 12. Costs are included in the estimates for draining and disposing of transformer oils.
- 13. Hazardous material abatement is included for asbestos and mercury. Lead paint coated materials will be handled by trained personnel as necessary but will not be removed prior to demolition.
- 14. In general, abatement of asbestos will precede any other work. After final air quality clearances have been reached, demolition can proceed. However, some abatement, including the removal of non-friable gaskets and packings will commence in conjunction with the demolition. If asbestos containing materials are found within the interior of boilers, stacks, ductwork or other equipment (including refractory), abatement will be coordinated closely with demolition.

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- 15. All demolition and abatement activities, including removal of asbestos, will be done in accordance with all applicable Federal, State and Local laws, rules, and regulations.
- 16. Transmission switchyards and substations within the boundaries of the plant are not part of the demolition scope, unless otherwise noted herein. For purposes of this Study, the division between generation assets and transmission assets is at the high side of the generator step-up transformers. Costs are included for removal of generation leads from the disconnect at the switchyard connection back to the GSU transformers and for the reserve power leads from the switchyard to the reserve power transformers.
- 17. Step-up transformers, auxiliary transformers, and spare transformers are included for demolition and scrap.
- All above-grade structures will be demolished. All below-grade structures, including foundations, will be removed to three feet below existing grade, unless otherwise noted in the site-specific assumptions.
- 19. Foundations greater than three feet below grade will be abandoned in place.
- 20. Underground structures with cavities will be permanently sealed three feet below grade. Examples include cable tunnels and vaults, coal reclaim conveyor tunnels, and rotary car dumper structures.
- 21. Cooling towers and basin walls will be removed, and the basin floors will be broken to allow for drainage and then backfilled with on-site soil.
- 22. Major equipment, structural steel, turbines, generators, transformers, electrical equipment, cabling, wiring, pump skids, above ground piping, and equipment enclosures for the above equipment are sold for scrap and removed from the site by the demolition contractor.
- 23. To the extent possible, concrete will be crushed and disposed of on-site. All other material that is not sold as scrap will be disposed of at an off-site landfill.
- 24. Except for the circulating water systems, underground piping will be capped at each end with concrete and abandoned in place. Concrete circulating water piping will be filled with flowable fill material.
- 25. Storm sewers, catch basins and ducts will be collapsed to two feet below grade, filled and sealed on the upstream side. Horizontal runs will be abandoned in place after being closed.
- 26. Ponds will have liners removed and disposed of. Pond berms will be graded, and the ponds will be backfilled with crushed concrete or berm material. Ponds, former spray field areas, and dredging areas will be covered with topsoil, graded, and seeded.
- 27. All production wells will be closed as per state regulations. Production wells will be filled with grout to approximately five feet below surface grade. The top five feet will be over-drilled and filled with soil backfill to grade on top of the grout. Monitoring wells will remain intact.
- 28. TECO will remove all rolling stock (rail cars, vehicles, cranes, forklift trucks, etc.) and temporary vehicle fuel tanks prior to commencement of demolition activities. These costs are not included in the Study.
- 29. TECO will remove any spare parts, tools, inventory, or equipment in the buildings prior to commencement of demolition activities. These costs are not included in the Study.
- 30. Site areas will be graded to achieve suitable site drainage to natural drainage patterns and seeded but grading will be minimized to the extent possible.
- 31. Valuation and sale of land and all replacement generation costs are excluded from this scope.
- 32. For purposes of this Study, it is assumed that none of the equipment will have a salvage value in excess of the scrap value of the materials in the equipment at the time of decommissioning. The decommissioning cost estimate is based on the end of useful life of the facility. All equipment, steel, copper, and other metals will be sold as scrap. Credits for salvage value are based on scrap value alone. Resale of equipment and materials is not included.
- 33. Contingency and owner's indirect costs have been excluded from the cost estimates under direction from TECO. Typically, 1898 & Co. would recommend and include a 20 percent contingency on the direct costs in the estimates and 5 percent owner's indirect costs on the direct costs.
- 34. Market conditions may result in cost variations at the time of contract execution.





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35. Scrap values used in the decommissioning estimates will be provided for each site according to the most recent 12-month average of American Metal Market prices inclusive of the cost to haul the scrap via truck and/or rail to the major market which provides the best price.

	Scrap	Steel Scrap	Copper	Aluminum	Brass Scrap
Plant	Market	Value	Scrap Value	Scrap Value	Value
	Location	(\$/net ton)	(\$/pound)	(\$/pound)	(\$/pound)
Agrivoltaics Solar	Cincinnati	\$ (229.38)	\$ (2.80)	\$ (0.35)	\$ (2.22)
Alafia Solar	Cincinnati	\$ (232.53)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Balm Solar	Cincinnati	\$ (227.63)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Bayside Power Station	Cincinnati	\$ (231.83)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Big Bend Power Station	Cincinnati	\$ (229.38)	\$ (2.80)	\$ (0.35)	\$ (2.22)
Big Bend Floating Solar	Cincinnati	\$ (230.08)	\$ (2.80)	\$ (0.35)	\$ (2.22)
Big Bend Solar	Cincinnati	\$ (229.38)	\$ (2.80)	\$ (0.35)	\$ (2.22)
Big Bend Solar Phase 2	Cincinnati	\$ (229.38)	\$ (2.80)	\$ (0.35)	\$ (2.22)
Bonnie Mine Solar	Cincinnati	\$ (232.88)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Brewster Solar	Cincinnati	\$ (221.68)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Bull Frog Creek Solar	Cincinnati	\$ (222.38)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Cotton Mouth Ranch Solar	Cincinnati	\$ (220.63)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Durrance Solar	Cincinnati	\$ (231.13)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Eastern PVS+ES Solar	Cincinnati	\$ (233.58)	\$ (2.81)	\$ (0.35)	\$ (2.22)
English Creek Solar	Cincinnati	\$ (233.23)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Florida Aquarium Pavilion	Cincinnati	\$ (232.88)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Future Solar Site I	Cincinnati	\$ (232.88)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Future Solar Site II	Cincinnati	\$ (232.88)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Grange Hall Solar	Cincinnati	\$ (231.13)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Jamison Solar	Cincinnati	\$ (231.48)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Juniper Solar	Cincinnati	\$ (226.58)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Lake Hancock Solar	Cincinnati	\$ (233.58)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Lake Mabel	Cincinnati	\$ (289.85)	\$ (2.83)	\$ (0.38)	\$ (2.25)
Laurel Oaks Solar	Cincinnati	\$ (232.53)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Legoland Solar	Cincinnati	\$ (289.85)	\$ (2.83)	\$ (0.35)	\$ (2.25)
Lithia Solar	Cincinnati	\$ (225.88)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Little Manatee River	Cincinnati	\$ (225.88)	\$ (2.80)	\$ (0.35)	\$ (2.21)
MacDill AFB RICE/Battery	Cincinnati	\$ (230.43)	\$ (2.80)	\$ (0.35)	\$ (2.22)
Magnolia Solar	Cincinnati	\$ (232.88)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Mountain View Solar	Cincinnati	\$ (221.68)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Payne Creek Solar	Cincinnati	\$ (227.63)	\$ (2.80)	\$ (0.35)	\$ (2.21)
Peace Creek Solar	Cincinnati	\$ (233.58)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Polk Power Station	Cincinnati	\$ (230.08)	\$ (2.80)	\$ (0.35)	\$ (2.22)
Riverside Solar	Cincinnati	\$ (226.58)	\$ (2.80)	\$ (0.35)	\$ (2.21)
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Table 3-1: 2023 Scrap Pricing



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Tampa International Solar	Cincinnati	\$ (232.88)	\$ (2.81)	\$ (0.35)	\$ (2.22)
Wimauma Solar	Cincinnati	\$ (231.13)	\$ (2.81)	\$ (0.35)	\$ (2.22)

Table 3-2: 2023 Additional Scrap Pricing

Plant	Scrap Market Location	Sc	inless Steel crap Value \$/net ton)	Sci	itanium rap Value 5/pound)	Sc	Inconel rap Value \$/pound)
Bayside Power Station	Cincinnati	\$	(1,072.93)	\$	(0.32)	\$	(4.51)
Big Bend Power Station	Cincinnati	\$	(1,070.48)	\$	(0.32)	\$	(4.50)
Polk Power Station	Cincinnati	\$	(1,071.18)	\$	(0.30)	\$	(4.50)

3.2 Site Specific Assumptions

The following assumptions are in addition to the general assumptions provided above and served as the basis of evaluation for each of the generating facilities for which site-specific decommissioning cost estimates will be developed.

3.2.1 Bayside Power Station

- 1. It has been assumed that no contamination is present in the abandoned spray areas. No remediation costs have been included for these areas.
- 2. Asbestos abatement has already occurred as part of the Gannon decommissioning project and the turbine building transite paneling was replaced with steel.
- 3. Bayside fuel oil tanks have been removed and it is assumed that there is no soil contamination present, therefore fuel oil tank removal and soil remediation has been excluded from the estimate.
- 4. New traveling screens and an organism return system are being installed at the site, and would be new since the time of the prior Study. Costs for removal of these items are included in the cost estimate.
- 5. Condenser tubes are comprised of titanium.

3.2.2 Big Bend Power Station

- 1. The coal unloading facility across Wyandotte Road is included in the estimate and it is assumed that the rail loop will also be removed.
- 2. It is assumed that approximately 145,800 tons of gypsum will be removed from site and disposed of as part of the gypsum storage remediation cost.
- 3. The bottom ash ponds, settling pond, south recycle pond, and north recycle pond will have all material removed by TECO prior to decommissioning. As such the costs for removal of this material are not included. The berms will then be graded into the ponds and the area seeded. Costs for these closure activities are included in the estimate.
- 4. The bottom ash storage pond, former spray field areas, stormwater ponds, and dredging spoil areas will be capped with 24 inches of soil and seeded.
- 5. The slag storage pond will be capped in place with a High Density Polyethlene ("HDPE") liner over six inches of fill soil. The HDPE cap will be covered by 24 inches of topsoil and seeded.
- 6. Circulating water intake and discharge canals will be left as-is, except for the free-standing thermal dilution sheet pile barrier along the discharge canal, which will be removed.
- 7. Stack removal for Unit 4 is included in the Study. It is assumed that the stack has a brick liner and there is a 4-foot difference in diameter between the stack and the liner.
- 8. The stack will be felled to the east as one of the last demolition activities on site using implosions. Barriers will be set in place to prevent debris from entering the surrounding canals and wetlands.
- 9. Condenser tubes are titanium.
- 10. Estimates for asbestos abatement are based on the prior remaining asbestos volume estimates provided by TECO.





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- 11. Units 2 and 3 have been retired. Any costs associated with Units 2 and 3 are not included in the cost estimate under direction from TECO.
- 12. Due to the Big Bend Modernization project, it is assumed most of the Unit 1 equipment has been retired except for the steam turbine, steam turbine building, and GSU. Cost to remove the boiler, precipitators, SCR, Scrubber/FGD, cooling water intakes, and circulating water pumps are not included.
- 13. Unit 1 asbestos was assumed to be partially remediated during the Big Bend Modernization, after discussion during the site visit.

3.2.3 Polk Power Station

- 1. Cooling water recirculation ponds will be left in place as is.
- 2. The storm water pond located on the north side will be left in place as-is.
- 3. Scrap values include 433,000 lbs of Inconel from the Syngas Cooler.
- 4. The slag storage area will be closed with a cap constructed of a High-Density Polyethylene liner over 6 inches of soil. The HDPE liner will be covered by 24-inches of topsoil and seeded.
- 5. It is assumed that no asbestos is present at this site.
- 6. Condenser tubes are comprised of stainless steel.

3.2.4 MacDill AFB RICE/Battery Storage

- 1. The cost to remove the piping to the metering and regulation stations is not included in the estimate.
- 2. Costs to remove RICE Units 1 and 2 as well as future RICE Units 3 and 4 are included in the estimate.
- 3. Manufacturing information of the battery energy storage system was not available for review. Battery specifications and quantities were assumed based on 1898 & Co. experience.
- 4. A Lease Agreement was not provided for review including removal requirements. As such, a removal depth of 3 feet below grade was assumed.
- 5. The battery disposal fees are assumed to be at the expense of the Project. Costs are included for transporting the batteries to a recycling facility.
- 6. It is assumed no asbestos or environmental contamination is present at the site.

3.3 Solar Site Specific Assumptions

3.3.1 Agrivoltaics Solar

- 1. Agrivoltaics Solar is on land owned by TECO. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.2 Alafia Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 4. The cost for substation removal was not included.

3.3.3 Balm Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.





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3. The cost for substation removal was not included.

3.3.4 Big Bend Floating Solar

- 1. Big Bend Floating Solar sits on Big Bend power station's bottom ash storage pond. Remediation cost for the bottom ash storage pond is included in the Big Bend Power Station estimate not in the Big Bend Floating Solar estimate.
- 2. The cost for substation removal was not included.

3.3.5 Big Bend Solar

- 1. Big Bend Solar is on land owned by TECO. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Manufacturing information of the battery energy storage system was not available for review. Battery specifications and quantities were assumed based on 1898 & Co. experience.
- 4. The battery disposal fees are assumed to be at the expense of the Project. Costs are included for transporting the batteries to a recycling facility.
- 5. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.6 Big Bend Solar II

- 1. Big Bend Solar II is on land owned by TECO. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.7 Bonnie Mine Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.8 Brewster Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 4. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 5. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.9 Bull Frog Creek Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 4. The cost for substation removal was not included.





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3.3.10 Cotton Mouth Ranch Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 4. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.11 Durrance Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.12 Eastern PVS+ES Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.13 English Creek Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 4. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.14 Florida Aquarium Pavilion Solar

- 1. Florida Aquarium Pavilion Solar is a rooftop solar site. It is assumed 15 percent of the rooftop under the panels will require restoration after decommissioning.
- 2. The cost for substation removal was not included.

3.3.15 Future Solar Site I

- 1. Because the location of Future Solar Site I has not yet been determined, an SCI of 100 percent was applied.
- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 4. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.





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3.3.16 Future Solar Site II

- 5. Because the location of Future Solar Site II has not yet been determined, an SCI of 100 percent was applied.
- 6. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 7. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 8. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 9. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.17 Grange Hall Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.18 Jamison Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.19 Juniper Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.
- 4. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.20 Lake Hancock Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.21 Lake Mabel

- 4. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 5. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 6. Drawings were not provided for review; project quantities and specifications were assumed based on other TECO solar projects and 1898 & Co. experience.





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- 7. Manufacturing information of the battery energy storage system was not available for review. Battery specifications and quantities were assumed based on 1898 & Co. experience.
- 8. The battery disposal fees are assumed to be at the expense of the Project. Costs are included for transporting the batteries to a recycling facility.
- 9. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.22 Laurel Oaks Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.23 Legoland Solar

- 1. Legoland Solar is on land owned by Legoland. All materials and support systems will be removed to grade.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.24 Lithia Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.25 Little Manatee River

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.26 Magnolia Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.27 Mountain View Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.





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3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.28 Payne Creek Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.29 Peace Creek Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. The cost for substation removal was not included.

3.3.30 Riverside Solar

- 1. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 2. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 3. Substations of the solar sites will be partially demolished. Costs are included for removal of the MV breakers, associated structures, and main power transformer.

3.3.31 Tampa International Solar

- 1. It is assumed that all concrete support systems will be removed to the floor elevation of the rooftop parking structure on which they sit.
- 2. Approximately 15 percent of the rooftop was assumed to require restoration following decommissioning.
- 3. The cost for substation removal was not included.

3.3.32 Wimauma Solar

- 4. A solar lease agreement was not available for review. A removal depth of 3 feet below grade was assumed.
- 5. The area inside the perimeter fencing is assumed to be disturbed and requires grading and reseeding as part of decommissioning.
- 6. New battery energy storage system layouts were provided by TECO. Manufacturing information of the battery energy storage system was not available for review. Battery specifications and quantities were assumed based on 1898 & Co. experience.
- 7. The battery disposal fees are assumed to be at the expense of the Project. Costs are included for transporting the batteries to a recycling facility.
- 8. The cost for substation removal was not included.



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4.0 Results

1898 & Co. has prepared cost estimates in 2023 dollars for the decommissioning of the Plants. These costs are summarized in the following table. When TECO determines that the Plants should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a scrap contractor to offset a portion of the decommissioning costs. TECO will incur costs in the demolition and restoration of the sites less the salvage value of equipment and bulk recycled metals.

Plant	De	commissioning Costs	Sa	lvage Credits	Ne	et Project Cost
Agrivoltaics Solar	\$	126,600	\$	(38,800)	\$	87,800
Balm Solar	\$	18,112,100	\$	(7,390,700)	\$	10,721,400
Bayside	\$	33,045,000	\$	(16,583,000)	\$	16,462,000
Big Bend	\$	86,850,000	\$	(13,018,000)	\$	73,832,000
Big Bend Floating Solar	\$	99,500	\$	(76,100)	\$	23,400
Big Bend Solar	\$	4,321,300	\$	(969,700)	\$	3,351,600
Big Bend Solar Phase 2	\$	1,605,200	\$	(537,900)	\$	1,067,300
Bonnie Mine Solar	\$	7,265,000	\$	(2,211,400)	\$	5,053,600
Durrance Solar	\$	12,169,000	\$	(4,340,200)	\$	7,828,800
Eastern PVS+ES Solar	\$	105,300	\$	(33,700)	\$	71,600
Florida Aquarium Pavilion	\$	12,700	\$	(5,000)	\$	7,700
Grange Hall Solar	\$	11,086,100	\$	(3,628,000)	\$	7,458,100
Jamison Solar	\$	11,175,600	\$	(3,500,400)	\$	7,675,200
Lake Hancock Solar	\$	8,761,000	\$	(2,889,500)	\$	5,871,500
Laurel Oaks Solar	\$	8,305,900	\$	(2,217,600)	\$	6,088,300
Legoland Solar	\$	172,100	\$	(31,100)	\$	141,000
Lithia Solar	\$	13,536,500	\$	(4,272,200)	\$	9,264,300
Little Manatee River	\$	14,167,400	\$	(4,602,400)	\$	9,565,000
MacDill AFB RICE/Battery	\$	2,025,000	\$	(1,267,000)	\$	758,000
Magnolia Solar	\$	12,151,300	\$	(2,631,500)	\$	9,519,800
Mountain View Solar	\$	7,202,000	\$	(1,793,600)	\$	5,408,400
Payne Creek Solar	\$	13,470,500	\$	(4,240,600)	\$	9,229,900
Peace Creek Solar	\$	9,713,400	\$	(3,300,700)	\$	6,412,700
Polk	\$	29,552,000	\$	(13,869,000)	\$	15,683,000
Riverside Solar	\$	8,768,800	\$	(2,092,100)	\$	6,676,700
Tampa International Solar	\$	815,900	\$	(296,100)	\$	519,800
Wimauma Solar	\$	15,414,100	\$	(4,267,300)	\$	11,146,800

 Table 4-1:
 Decommissioning Cost Summary (2023\$)



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November 20, 2023 | Confidential Information

TECO Decommissioning Cost Estimate Study

		Future Solar Sit	es			
Plant	Decom Costs	missioning	Sal	vage Credits	Net	Project Cost
Alafia Solar	\$	8,750,200	\$	(2,115,700)	\$	6,634,500
Brewster Solar	\$	5,594,500	\$	(1,591,800)	\$	4,002,700
Bull Frog Creek Solar	\$	10,077,000	\$	(2,567,900)	\$	7,509,100
Cotton Mouth Ranch Solar	\$	10,408,100	\$	(2,550,600)	\$	7,857,500
English Creek Solar	\$	9,424,300	\$	(2,546,600)	\$	6,877,700
Future Solar Site I	\$	10,501,600	\$	(2,367,300)	\$	8,134,300
Future Solar Site II	\$	10,501,600	\$	(2,367,300)	\$	8,134,300
Juniper Solar	\$	10,828,400	\$	(2,332,300)	\$	8,496,100
Lake Mabel	\$	11,269,900	\$	(3,121,600)	\$	8,148,300
TOTAL DECOMMISSIONING COST	\$	417,384,900	\$	(121,664,700)	\$	295,720,200



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APPENDIX A - COST ESTIMATE SUMMARIES

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Table A-1 Agrivoltaics Solar Solar Decommissioning Cost Summary

		1	Material and						
	Labor		Equipment	Disposal	E	Environmental	Total Cost	Sci	ap Value
privoltaics Solar									
Solar Farm									
Solar Panel Removal	\$ 15,500	\$	16,100	\$ 5,100	\$	-	\$ 36,700	\$	-
Panel Supports/Rack	\$ 23,100	\$	24,000	\$ -	\$	-	\$ 47,100	\$	-
Electrical & Wiring	\$ 1,000	\$	1,000	\$ -	\$	-	\$ 2,000		-
Site Restoration	\$ 7,200	\$	7,500	\$ -	\$	26,000	\$ 40,700	\$	-
On-site Concrete Crushing and Removal	\$ -	\$	-	\$ 100	\$	-	\$ 100	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -	\$	(38,800
Subtotal	\$ 46,800	\$	48,600	\$ 5,200	\$	26,000	\$ 126,600	\$	(38,80
Agrivoltaics Solar Subtotal	\$ 46,800	\$	48,600	\$ 5,200	\$	26,000	\$ 126,600	\$	(38,80
TOTAL DECOM COST (CREDIT)							\$ 126,600	\$	(38,800
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$		
TOTAL PROJECT COST (CREDIT)							\$ 126,600	\$	(38,80
TOTAL NET PROJECT COST (CREDIT)							\$ 87,800		

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Table A-2 Alafia Solar Solar Decommissioning Cost Summary

		N	Aaterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Scr	ap Value
ifia Solar									
Solar Farm									
Solar Panel Removal	\$ 1,261,900	\$	1,314,500	\$ 437,800	\$	-	\$ 3,014,200	\$	-
Panel Supports/Rack	\$ 1,190,700		1,240,200	-	\$	-	\$ 2,430,900		-
Electrical & Wiring	\$ 185,200	\$	192,900	\$ -	\$	-	\$ 378,100	\$	-
Site Restoration	\$ 150,300	\$	156,500	\$ -	\$	2,605,600	\$ 2,912,400	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 11,400	\$	-	\$ 11,400	\$	-
Debris	\$ -	\$	-	\$ 3,200	\$	-	\$ 3,200	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		,115,700)
Subtotal	\$ 2,788,100	\$	2,904,100	\$ 452,400	\$	2,605,600	\$ 8,750,200	\$ (2	,115,700)
Alafia Solar Subtotal	\$ 2,788,100	\$	2,904,100	\$ 452,400	\$	2,605,600	\$ 8,750,200	\$ (2	,115,700)
TOTAL DECOM COST (CREDIT)							\$ 8,750,200	\$ (2	,115,700)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 8,750,200	\$ (2	,115,700)
TOTAL NET PROJECT COST (CREDIT)							\$ 6,634,500		



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Table A-3 Balm Solar Solar Decommissioning Cost Summary

		N	Naterial and						
	Labor		Equipment	Disposal	E	Invironmental	Total Cost	Scra	p Value
m Solar									
Solar Farm									
Solar Panel Removal	\$ 2,065,500	\$	2,151,500	\$ -	\$	-	\$ 4,217,000	\$	-
Panel Supports/Rack	\$ 5,564,300	\$	5,796,000	\$ -	\$	-	\$ 11,360,300		-
Electrical & Wiring	\$ 119,200	\$	124,200	\$ -	\$	-	\$ 243,400	\$	-
Site Restoration	\$ 120,600	\$	125,600	\$ -	\$	2,032,200	\$ 2,278,400	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 3,900	\$	-	\$ 3,900	\$	-
Debris	\$ -	\$	-	\$ 9,100	\$	-	\$ 9,100	\$.
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		390,700)
Subtotal	\$ 7,869,600	\$	8,197,300	\$ 13,000	\$	2,032,200	\$ 18,112,100	\$ (7,	390,700)
Balm Solar Subtotal	\$ 7,869,600	\$	8,197,300	\$ 13,000	\$	2,032,200	\$ 18,112,100	\$ (7,	390,700
TOTAL DECOM COST (CREDIT)							\$ 18,112,100	\$ (7,	390,700
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 18,112,100	\$ (7,	390,700
TOTAL NET PROJECT COST (CREDIT)							\$ 10,721,400		



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Table A-4 Bayside Decommissioning Cost Summary

	Labor		Material and Equipment		Disposal		Environmental		Total Cost	,	Scrap Value
	Lubol		Equipment		Disposal		Environmental		10101 0001		ocrup vulue
\$	8,000	\$	13,000	\$	-	\$	-	\$	21,000	\$	-
\$		\$	3,639,000	\$	-	\$	-	\$	5,903,000	\$	-
\$		\$	1,630,000	\$	-	\$	-	\$	2,644,000	\$	-
\$	96,000	\$	155,000	\$	-	\$	-	\$	251,000	\$	
\$	107,000	\$	172,000	\$	-	\$	-	\$	279,000	\$	
\$	140,000	\$	224,000	\$	-	\$	-	\$	364,000	\$	
\$	-	\$	-	\$	54,000	\$	-	\$	54,000	\$	
\$	-	\$	-	\$	27,000	\$	-	\$	27,000	\$	
\$	-	\$	-	\$	-	\$	-	\$	-	\$	(6,200,
\$	3,629,000	\$	5,833,000	\$	81,000	\$	-	\$	9,543,000	\$	(6,200,
\$	11.000	\$	18.000	\$	-	\$	-	\$	29.000	\$	
		\$	5,193,000	\$	-	\$	-			\$	
		\$	1.646.000	\$	-	\$	-			\$	
					-	\$	-				
					-	\$	-				
					-	\$	-				
	-				54.000	\$	-				
	-		-				-				
\$	-	\$	-	\$	-	\$	-	\$	-	\$	(7,954,
\$	4,712,000	\$	7,577,000	\$	76,000	\$	-	\$	12,365,000	\$	(7,954,
-											
•	0.40,000	•	4 0 40 000	~		•		•	4 000 000	•	
					-		-				
					-		-				
			30,000		-		-				
			-				-		9,000		(1,837,
	688.000		1.106.000		9.000	\$			1.803.000		(1,837,
			, ,		,						
					-		-				
					-		-				
					-		-				
					-		-		- ,		
					-						
			36,000								
			-		-						
			-				2,627,000				
	-		-		60,000						
\$	-	\$	-	\$	-	\$	2,071,000	\$	2,071,000	\$	
\$	-	\$	-	\$	13,000	\$	-	\$	13,000	\$	
\$	-	\$ \$	2,439,000	\$ \$	-	\$	5,303,000	\$ \$	-	\$	(592, (592,
\$	1,519,000	Ψ	2,439,000	Ψ	73,000	\$	3,303,000	Ψ	9,334,000	\$	(552,
	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 1,014,000 \$ 96,000 \$ 107,000 \$ 140,000 \$ - \$ - \$ - \$ - \$ 3,629,000 \$ 1,024,000 \$ 1,024,000 \$ 1,024,000 \$ 1,024,000 \$ 127,000 \$ 142,000 \$ 127,000 \$ 142,000 \$ 178,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 1,014,000 \$ \$ 96,000 \$ \$ 107,000 \$ \$ 140,000 \$ \$ - \$ \$ - \$ \$ - \$ \$ 3,629,000 \$ \$ 1,024,000 \$ \$ 1,024,000 \$ \$ 1,024,000 \$ \$ 1,024,000 \$ \$ 142,000 \$ \$ 142,000 \$ \$ 21,000 \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ = \$ - \$ -	\$ 1,014,000 \$ 1,630,000 \$ 96,000 \$ 1,55,000 \$ 172,000 \$ 172,000 \$ 140,000 \$ 224,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$. \$ \$ \$ \$	\$ 1,014,000 \$ 1,630,000 \$ \$ 96,000 \$ 155,000 \$ \$ 107,000 \$ 172,000 \$ \$ 140,000 \$ 224,000 \$ \$ - \$ - \$ \$ - \$ - \$ \$ - \$ - \$ \$ - \$ - \$ \$ 3,629,000 \$ 5,833,000 \$ \$ 11,000 \$ 18,000 \$ \$ 3,230,000 \$ 5,193,000 \$ \$ 1,024,000 \$ 1,646,000 \$ \$ 1,024,000 \$ 1,646,000 \$ \$ 1,024,000 \$ 224,000 \$ \$ 1,024,000 \$ 2,1646,000 \$ \$ 127,000 \$ 224,000 \$ \$ 142,000 \$ 229,000 \$ \$ 127,000 \$ 247,000 \$ \$ 21,000 \$ 1,547,000 \$ \$ 21,000 \$ 34,000 \$ \$ 251,000 \$ 128,000 \$ \$ 251,000 \$ 128,000 \$ \$ 263,000 \$ 128,000 \$ \$ 22,000 \$ 36,000 \$ \$ 20,000 \$ \$ 20,000 \$ \$ 20,000 \$ \$ 20,000 \$ \$ 20,000	\$ 1,014,000 \$ 1,630,000 \$ - \$ 96,000 \$ 155,000 \$ - \$ 107,000 \$ 122,000 \$ - \$ - \$ - \$ - \$ \$ - \$ - \$ - \$ \$ - \$ - \$ - \$ \$ - \$ - \$ - \$ \$ 3,629,000 \$ 5,833,000 \$ 81,000 \$ 11,000 \$ 18,000 \$ - \$ 3,629,000 \$ 1,846,000 \$ - \$ 1,024,000 \$ 1,846,000 \$ - \$ 127,000 \$ 229,000 \$ - \$ 142,000 \$ 229,000 \$ - \$ - \$ - \$ 5 4,000 \$ - \$ - \$ - \$ </td <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>\$ 1,014,000 \$ 1,630,000 \$ - \$ - \$ 2,644,000 \$ 107,000 \$ 172,000 \$ - \$ - \$ 279,000 \$ 107,000 \$ 122,000 \$ - \$ - \$ 279,000 \$ - \$ - \$ - \$ - \$ 54,000 \$ - \$ - \$ - \$ - \$ 54,000 \$ - \$ - \$ - \$ - \$ 27,000 \$ - \$ - \$ - \$ - \$ 29,000 \$ 3,230,000 \$ 5,833,000 \$ - \$ - \$ 29,000 \$ 11,000 \$ 18,000 \$ - \$ - \$ 29,000 \$ 1,224,000 \$ 1,646,000 \$ - \$ - \$ 31,000 \$<</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td>	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	\$ 1,014,000 \$ 1,630,000 \$ - \$ - \$ 2,644,000 \$ 107,000 \$ 172,000 \$ - \$ - \$ 279,000 \$ 107,000 \$ 122,000 \$ - \$ - \$ 279,000 \$ - \$ - \$ - \$ - \$ 54,000 \$ - \$ - \$ - \$ - \$ 54,000 \$ - \$ - \$ - \$ - \$ 27,000 \$ - \$ - \$ - \$ - \$ 29,000 \$ 3,230,000 \$ 5,833,000 \$ - \$ - \$ 29,000 \$ 11,000 \$ 18,000 \$ - \$ - \$ 29,000 \$ 1,224,000 \$ 1,646,000 \$ - \$ - \$ 31,000 \$<	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

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Table A-5 Big Bend Decommissioning Cost Summary

lend		Labor	Material and Equipment	Disposal	Environmental		Total Cost		Scrap Va
Unit 1 Asbestos Removal	\$		\$-	s -	\$ 383,000	\$	383,000	\$	
Steam Turbine & Building	ŝ		\$ 1,388,000		\$	\$		ŝ	
GSU & Foundation	\$				- \$ -	\$		\$	
On-site Concrete Crushing & Disposal	\$	-	\$-		\$ -	\$		\$	
Scrap	\$		\$-	Ŧ	\$-	\$		\$	(1,57
Subtotal	\$	922,000	\$ 1,483,000	\$ 39,000	\$ 569,000	\$	3,013,000	\$	(1,57
Unit 4									
Asbestos Removal	\$		\$-		\$ 837,000	\$		\$	
Boiler Steam Turbine & Building	\$ \$				\$- \$-	\$ \$		\$ \$	
Precipitator	\$				s -	\$		\$	
SCR	ŝ				\$ -	\$		\$	
Scrubber / FGD	\$		\$ 485,000		\$-	\$		\$	
Stacks	\$				\$-	\$		\$	
GSU & Foundation	\$				s -	\$		\$	
On-site Concrete Crushing & Disposal	\$		\$-		s -	\$		\$	
Debris	\$		\$-		s -	\$		\$	(4,283
Scrap Subtotal	\$ \$		\$ \$6,630,000		<u>-</u> \$ 1,002,000	\$ \$		\$ \$	(4,28
	Ţ	4,120,000	• 0,000,000	• ••••,•••	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Ť	,,	Ŷ	(-,0
GT 4		85.000	¢ 407.000	۴	¢	¢	222.000	~	
CTGs and HRSGs Flood Wall	\$ \$	85,000 61,000			\$- \$-	\$ \$		\$ \$	
Stacks	\$		\$ 6,000		s -	\$		\$	
GSU & Foundation	ŝ				\$-	\$		\$	
On-site Concrete Crushing & Disposal	\$		\$ -		\$-	\$		\$	
Debris	\$		\$-		\$-	\$	2,000	\$	
Scrap	\$		\$-		\$-	\$	-	\$	(358
Subtotal	\$	167,000	\$ 268,000	\$ 7,000	\$-	\$	442,000	\$	(35
GT 5-6									
CTGs and HRSGs	\$	3,353,000			s -	\$		\$	
Steam Turbine & Building SCR	\$				s -	\$		\$	
Flood Wall	\$ \$				\$- \$-	\$ \$		\$ \$	
Cooling Towers & Basin	\$				s -	\$		\$	
GSU & Foundation	ŝ				s -	\$		\$	
On-site Concrete Crushing & Disposal	ŝ		\$ -		s -	\$		\$	
Debris	\$		\$ -		\$-	\$		\$	
Scrap	\$		\$-		\$-	\$	-	\$	(6,079
Subtotal	\$	4,084,000	\$ 6,563,000	\$ 89,000	\$-	\$	10,736,000	\$	(6,079
Handling									
Coal Handling Facilites	\$				\$-	\$		\$	
Coal Storage Area Restoration	\$		\$-		\$ 7,958,000	\$		\$	
Limestone Handling Facilities	\$				s -	\$		\$	
On-site Concrete Crushing & Disposal	\$ \$		\$- \$-		\$- \$-	\$ \$		\$ \$	
Debris Scrap	s S		а \$-		s -	э \$		э S	(267
Subtotal	\$		\$ 670,000		\$ 7,958,000	\$		\$	(26
Common Cooling Water Intakes and Circulating Water Pumps	\$	150,000	\$ 242,000	\$ -	s -	\$	392,000	\$	
BOP Misc.	\$				\$-	\$		\$	
Roads	\$	168,000	\$ 270,000	\$-	\$-	\$	438,000	\$	
All BOP Buildings	\$				\$-	\$		\$	
Fuel Equipment	\$				s -	\$		\$	
All Other Tanks	\$				\$-	\$		\$	
Transformers & Foundation	\$		\$ -		\$ 298,000	\$		\$	
Refractory Disposal Mercury & Universal Waste Disposal	\$ \$		\$- \$-		\$ 15,000 \$ 17,000	\$ \$		\$ \$	
Fuel Oil Tank Area Remediation	\$		s - \$ -		\$ 365,000	э \$		ې \$	
Fuel Oil Line Flushing/Cleaning	\$		φ - \$ -		\$ 52,000	\$		\$	
Pond Closure	\$		\$-		\$ 25,413,000	\$		\$	
	ŝ		\$-	\$ -	\$ 14,904,000	\$	14,904,000	\$	
Gypsum Area	\$	-	\$ -		\$ 41,000		41,000	\$	
Plant Washdown & Materials Disposal			\$-	\$ 92,000		\$	92,000		
Plant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal	\$		\$-	\$ - \$ 14,000	\$ 5,485,000		5,485,000		
Plant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding	\$		¢		\$-	\$	14,000	\$	(460
Plant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding Debris	\$ \$	-	\$- \$-		s -	\$	-		
Plant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding	\$	-	\$-	\$ -	\$-	Ŧ	- 51,251,000	ې \$	(46)
Piant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding Debris Scrap Subtotal	\$ \$	- - 1,746,000	\$ \$	\$	\$	\$			(46)
Plant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding Debris Scrap Subtotal Big Bend Subtotal	s s s	-	\$ \$	\$	\$	\$	86,850,000	\$	(13,01)
Piant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding Debris Scrap Subtotal Big Bend Subtotal TOTAL DECOM COST (CREDIT)	s s s	- - 1,746,000	\$ \$	\$	\$	\$ \$		\$	(13,01)
Piant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding Debris Scrap Subtotal Big Bend Subtotal	s s s	- - 1,746,000	\$ \$	\$	\$	\$	86,850,000	\$	
Piant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding Debris Scrap Subtotal Big Bend Subtotal TOTAL DECOM COST (CREDIT)	s s s	- - 1,746,000	\$ \$	\$	\$	\$ \$	86,850,000	\$	(13,01)
Piant Washdown & Materials Disposal Concrete Removal, Crushing, & Disposal Grading & Seeding Debris Scrap Subtotal Big Bend Subtotal TOTAL DECOM COST (CREDIT) PROJECT INDIRECTS (0%)	s s s	- - 1,746,000	\$ \$	\$	\$	\$ \$ \$ \$	86,850,000	\$ \$	(13,01)

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Table A-6 Big Bend Floating Solar Solar Decommissioning Cost Summary

			Ν	Material and								
		Labor		Equipment		Disposal	E	Environmental		Total Cost	Sc	rap Value
g Bend Floating Solar												
Solar Farm												
Solar Panel Removal	\$	20,800	\$	21,700	\$	7,000	\$	-	\$	49,500	\$	-
Panel Supports/Rack	\$	19,500	\$	20,300		-	\$	-	\$	39,800		-
Floats, Supports and Walkway	\$	3,200	\$	3,300	\$	-	\$	-	\$	6,500	\$	-
Electrical & Wiring	\$	200	\$	200	\$	-	\$	-	\$	400	\$	-
Site Restoration	\$	-	\$	-	\$	-	\$	100	\$	100	\$	-
On-site Concrete Crushing and Removal	ş	-	\$	-	\$	-	\$	-	\$	-	\$	-
Debris	\$ \$	-	¢	-	¢	3,200	¢	-	¢	3,200	¢	- (76,100
Scrap	ŝ	43,700	φ \$	45,500	φ \$	10,200	۰ \$	- 100	ې \$	99,500	φ \$	(76,100
Subtotal	ş	43,700	φ	45,500	φ	10,200	φ	100	φ	55,500	<u>ф</u>	(70,100
Big Bend Floating Solar Subtotal	\$	43,700	\$	45,500	\$	10,200	\$	100	\$	99,500	\$	(76,100
TOTAL DECOM COST (CREDIT)									\$	99,500	\$	(76,100
PROJECT INDIRECTS (0%)									\$	-		
CONTINGENGY (0%)									\$	-		
TOTAL PROJECT COST (CREDIT)									\$	99,500	\$	(76,100
TOTAL NET PROJECT COST (CREDIT)									\$	23,400		

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Table A-7 Big Bend Solar Solar Decommissioning Cost Summary

		N	laterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Sc	rap Value
Bend Solar									
Solar Farm									
Solar Panel Removal	\$ 959,800	\$	999,800	\$ 334,800	\$	-	\$ 2,294,400	\$	-
Panel Supports/Rack	\$ 528,400	\$	550,400	\$ -	\$	-	\$ 1,078,800	\$	-
Battery Energy Storage System	\$ 28,800	\$	21,900	\$ 29,500	\$	-	\$ 80,200	\$	-
Electrical & Wiring	\$ 111,500	\$	116,200	\$ -	\$	-	\$ 227,700		-
Site Restoration	\$ -	\$	-	\$ -	\$	632,100	\$ 632,100		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 5,400	\$	-	\$ 5,400	\$	-
Debris	\$ -	\$	-	\$ 2,700	\$	-	\$ 2,700	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -	\$	(969,700
Subtotal	\$ 1,628,500	\$	1,688,300	\$ 372,400	\$	632,100	\$ 4,321,300	\$	(969,700
Big Bend Solar Subtotal	\$ 1,628,500	\$	1,688,300	\$ 372,400	\$	632,100	\$ 4,321,300	\$	(969,700
TOTAL DECOM COST (CREDIT)							\$ 4,321,300	\$	(969,700
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 4,321,300	\$	(969,700
TOTAL NET PROJECT COST (CREDIT)							\$ 3,351,600		

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Table A-8 Big Bend Solar Phase 2 Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	Invironmental	Total Cost	Sc	rap Value
ig Bend Solar Phase 2									
Solar Farm									
Solar Panel Removal	\$ 294,200	\$	306,500	\$ -	\$	-	\$ 600,700	\$	-
Panel Supports/Rack	\$ 283,600	\$	295,400	\$ -	\$	-	\$ 579,000	\$	-
Electrical & Wiring	\$ 97,600	\$	101,600	-	\$	-	\$ 199,200		-
Site Restoration	\$ 37,200	\$	38,800	\$ -	\$	142,500	\$ 218,500		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 6,000	\$	-	\$ 6,000	\$	-
Debris	\$ -	\$	-	\$ 1,800	\$	-	\$ 1,800	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -	\$	(537,90
Subtotal	\$ 712,600	\$	742,300	\$ 7,800	\$	142,500	\$ 1,605,200	\$	(537,90
Big Bend Solar Phase 2 Subtotal	\$ 712,600	\$	742,300	\$ 7,800	\$	142,500	\$ 1,605,200	\$	(537,9
TOTAL DECOM COST (CREDIT)							\$ 1,605,200	\$	(537,9
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 1,605,200	\$	(537,9
TOTAL NET PROJECT COST (CREDIT)							\$ 1,067,300		

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Table A-9 Bonnie Mine Solar Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	invironmental	Total Cost	Scra	p Value
nnie Mine Solar									
Solar Farm									
Solar Panel Removal	\$ 971,700	\$	1,012,200	\$ 306,400	\$	-	\$ 2,290,300	\$	-
Panel Supports/Rack	\$ 1,421,000	\$	1,480,200	\$ -	\$	-	\$ 2,901,200	\$	-
Electrical & Wiring	\$ 82,300	\$	85,600	\$ -	\$	-	\$ 167,900	\$	-
Site Restoration	\$ 70,900	\$	73,900	\$ -	\$	1,753,100	\$ 1,897,900		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 2,900	\$	-	\$ 2,900	\$	-
Debris	\$ -	\$	-	\$ 4,800	\$	-	\$ 4,800	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		211,400
Subtotal	\$ 2,545,900	\$	2,651,900	\$ 314,100	\$	1,753,100	\$ 7,265,000	\$ (2,:	211,400
Bonnie Mine Solar Subtotal	\$ 2,545,900	\$	2,651,900	\$ 314,100	\$	1,753,100	\$ 7,265,000	\$ (2,	211,400
TOTAL DECOM COST (CREDIT)							\$ 7,265,000	\$ (2,	211,400
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 7,265,000	\$ (2,	211,400
TOTAL NET PROJECT COST (CREDIT)							\$ 5,053,600		

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Table A-10 Brewster Solar Solar Decommissioning Cost Summary

		N	Material and						
	Labor		Equipment	Disposal	E	nvironmental	Total Cost	Scra	p Value
ewster Solar									
Solar Farm									
Solar Panel Removal	\$ 819,600	\$	853,700	\$ 277,200	\$	-	\$ 1,950,500	\$	-
Panel Supports/Rack	\$ 892,400		929,600	-	\$	-	\$ 1,822,000		-
Electrical & Wiring	\$ 160,600	\$	167,200	\$ -	\$	-	\$ 327,800	\$	-
Site Restoration	\$ 100,200	\$	104,300	\$ -	\$	1,277,300	\$ 1,481,800	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 9,800	\$	-	\$ 9,800	\$	-
Debris	\$ -	\$	-	\$ 2,600	\$	-	\$ 2,600	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		591,800)
Subtotal	\$ 1,972,800	\$	2,054,800	\$ 289,600	\$	1,277,300	\$ 5,594,500	\$ (1,5	591,800)
Brewster Solar Subtotal	\$ 1,972,800	\$	2,054,800	\$ 289,600	\$	1,277,300	\$ 5,594,500	\$ (1,5	591,800)
TOTAL DECOM COST (CREDIT)							\$ 5,594,500	\$ (1,{	591,800)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 5,594,500	\$ (1,{	591,800)
TOTAL NET PROJECT COST (CREDIT)							\$ 4,002,700		



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Table A-11 Bull Frog Creek Solar Solar Decommissioning Cost Summary

		N	Material and						
	Labor	!	Equipment	Disposal	E	invironmental	Total Cost	Scr	ap Value
II Frog Creek Solar									
Solar Farm									
Solar Panel Removal	\$ 1,540,100	\$	1,604,200	\$ 413,400	\$	-	\$ 3,557,700	\$	-
Panel Supports/Rack	\$ 1,676,900	\$	1,746,800	\$ -	\$	-	\$ 3,423,700	\$	-
Electrical & Wiring	\$ 146,900	\$	152,900	\$ -	\$	-	\$ 299,800	\$	-
Site Restoration	\$ 188,200	\$	196,100	\$ -	\$	2,400,100	\$ 2,784,400	\$	-
On-site Concrete Crushing and Removal	\$ -	\$	-	\$ 8,200	\$	-	\$ 8,200	\$	-
Debris	\$ -	\$	-	\$ 3,200	\$	-	\$ 3,200	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		2,567,900)
Subtotal	\$ 3,552,100	\$	3,700,000	\$ 424,800	\$	2,400,100	\$ 10,077,000	\$ (2	2,567,900)
Bull Frog Creek Solar Subtotal	\$ 3,552,100	\$	3,700,000	\$ 424,800	\$	2,400,100	\$ 10,077,000	\$ (2	2,567,900)
TOTAL DECOM COST (CREDIT)							\$ 10,077,000	\$ (2	2,567,900)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 10,077,000	\$ (2	2,567,900)
TOTAL NET PROJECT COST (CREDIT)							\$ 7,509,100		

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Table A-12 Cotton Mouth Ranch Solar Solar Decommissioning Cost Summary

		N	laterial and						
	Labor		Equipment	Disposal	E	Invironmental	Total Cost	Sc	rap Value
otton Mouth Ranch Solar									
Solar Farm									
Solar Panel Removal	\$ 1,555,200	\$	1,619,900	\$ 648,000	\$	-	\$ 3,823,100	\$	-
Panel Supports/Rack	\$ 1,693,300	\$	1,763,900	\$ -	\$	-	\$ 3,457,200	\$	-
Electrical & Wiring	\$		154,500	-	\$	-	\$ 302,700		-
Site Restoration	\$ 190,100	\$	198,000	\$ -	\$	2,423,600	\$ 2,811,700	\$	-
On-site Concrete Crushing and Removal	\$ -	\$	-	\$ 8,300	\$	-	\$ 8,300	\$	-
Debris	\$ -	\$	-	\$ 5,100	\$	-	\$ 5,100	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		2,550,600)
Subtotal	\$ 3,586,800	\$	3,736,300	\$ 661,400	\$	2,423,600	\$ 10,408,100	\$ (2,550,600)
Cotton Mouth Ranch Solar Subtotal	\$ 3,586,800	\$	3,736,300	\$ 661,400	\$	2,423,600	\$ 10,408,100	\$ (2,550,600)
TOTAL DECOM COST (CREDIT)							\$ 10,408,100	\$ (2,550,600)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 10,408,100	\$ (2,550,600)
TOTAL NET PROJECT COST (CREDIT)							\$ 7,857,500		



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Table A-13 Durrance Solar Solar Decommissioning Cost Summary

			Μ	laterial and						
		Labor	E	Equipment	Disposal	E	Invironmental	Total Cost	S	crap Value
rrance Solar										
Solar Farm										
O&M Building	\$	3,000	\$	3,100	\$ -	\$	-	\$ 6,100	\$	-
Solar Panel Removal	\$	1,627,600	\$	1,695,400	\$ 602,600	\$	-	\$ 3,925,600	\$	-
Panel Supports/Rack	\$	3,158,000		3,289,500	\$ -	\$	-	\$		-
Electrical & Wiring	\$	118,000		122,800	\$ -	\$	-	\$ 240,800		-
Site Restoration	\$	83,400	\$	86,800	\$ 	\$	1,369,900	\$ 1,540,100		-
On-site Concrete Crushing and Removal	\$	-	\$	-	\$ 7,300	\$	-	\$ 7,300	\$	-
Debris	\$	-	\$	-	\$ 1,600	\$	-	\$ 1,600	\$	-
Scrap	ð A	-	\$	-	\$ -	\$	-	\$ -	\$	(4,340,200
Subtotal	\$	4,990,000	\$	5,197,600	\$ 611,500	\$	1,369,900	\$ 12,169,000	\$	(4,340,200
Durrance Solar Subtotal	\$	4,990,000	\$	5,197,600	\$ 611,500	\$	1,369,900	\$ 12,169,000	\$	(4,340,200
TOTAL DECOM COST (CREDIT)								\$ 12,169,000	\$	(4,340,200
PROJECT INDIRECTS (0%)								\$ -		
CONTINGENGY (0%)								\$ -		
TOTAL PROJECT COST (CREDIT)								\$ 12,169,000	\$	(4,340,200
TOTAL NET PROJECT COST (CREDIT)								\$ 7,828,800		

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Table A-14 Eastern PVS+ES Solar Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Scr	ap Value
stern PVS+ES Solar									
Solar Farm									
Solar Panel Removal	\$ 12,600		13,100	3,200	\$	-	\$ 28,900		-
Panel Supports/Rack	\$ 13,200		13,800	-	\$	-	\$ 27,000		-
Battery Containers and Racks	\$ 3,200	\$	3,300	\$ 6,700	\$	-	\$ 13,200		-
Electrical & Wiring	\$ 2,500	\$	2,500	\$ -	\$	-	\$ 5,000		-
Site Restoration	\$ -	\$	-	\$ -	\$	19,900	\$ 19,900		-
On-site Concrete Crushing and Removal	\$ -	\$	-	\$ 11,200	\$	-	\$ 11,200	\$	-
Debris	\$ -	\$	-	\$ 100	\$	-	\$ 100	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -	\$	(33,70
Subtotal	\$ 31,500	\$	32,700	\$ 21,200	\$	19,900	\$ 105,300	\$	(33,70
Eastern PVS+ES Solar Subtotal	\$ 31,500	\$	32,700	\$ 21,200	\$	19,900	\$ 105,300	\$	(33,70
TOTAL DECOM COST (CREDIT)							\$ 105,300	\$	(33,70
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 105,300	\$	(33,70
TOTAL NET PROJECT COST (CREDIT)							\$ 71,600		

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Table A-15 English Creek Solar Solar Decommissioning Cost Summary

		Μ	laterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Scra	p Value
glish Creek Solar									
Solar Farm									
Solar Panel Removal	\$ 1,567,600	\$	1,632,900	\$ 495,700	\$	-	\$ 3,696,200	\$	-
Panel Supports/Rack	\$ 1,641,200	\$	1,709,600	\$ -	\$	-	\$ 3,350,800	\$	-
Electrical & Wiring	\$ 194,800	\$	202,800	\$ -	\$	-	\$ 397,600	\$	-
Site Restoration	\$ 189,000	\$	196,800	\$ -	\$	1,578,300	\$ 1,964,100		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 12,400	\$	-	\$ 12,400	\$	-
Debris	\$ -	\$	-	\$ 3,200	\$	-	\$ 3,200	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		546,600
Subtotal	\$ 3,592,600	\$	3,742,100	\$ 511,300	\$	1,578,300	\$ 9,424,300	\$ (2,	546,600
English Creek Solar Subtotal	\$ 3,592,600	\$	3,742,100	\$ 511,300	\$	1,578,300	\$ 9,424,300	\$ (2,	546,600
TOTAL DECOM COST (CREDIT)							\$ 9,424,300	\$ (2,	546,600
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 9,424,300	\$ (2,	546,600
TOTAL NET PROJECT COST (CREDIT)							\$ 6,877,700		



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Table A-16 Florida Aquarium Pavillion Solar Solar Decommissioning Cost Summary

		1	Material and						
	Labor		Equipment	Disposal	E	Invironmental	Total Cost	Scr	ap Value
ida Aquarium Pavillion Solar									
Solar Farm									
Solar Panel Removal	\$ 3,200	\$	3,300	\$ 1,000	\$	-	\$ 7,500	\$	-
Panel Supports/Rack	\$ 800	\$	800	\$ -	\$	-	\$ 1,600	\$	-
Battery Containers and Racks	\$ -	\$	-	\$ 200	\$	-	\$ 200	\$	-
Electrical & Wiring	\$ 300	\$	300	\$ -	\$	-	\$ 600	\$	-
Site Restoration	\$ -	\$	-	\$ -	\$	2,800	\$ 2,800	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -	\$	(5,000
Subtotal	\$ 4,300	\$	4,400	\$ 1,200	\$	2,800	\$ 12,700	\$	(5,000
Florida Aquarium Pavillion Solar Subtotal	\$ 4,300	\$	4,400	\$ 1,200	\$	2,800	\$ 12,700	\$	(5,000
TOTAL DECOM COST (CREDIT)							\$ 12,700	\$	(5,000
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 12,700	\$	(5,000
TOTAL NET PROJECT COST (CREDIT)							\$ 7,700		



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Table A-17 Future Solar Site I Solar Decommissioning Cost Summary

		N	laterial and						
	Labor	F	Equipment	Disposal	E	nvironmental	Total Cost	Scra	p Value
ure Solar Site I									
Solar Farm									
Solar Panel Removal	\$ 1,529,400	\$	1,593,100	\$ 485,400	\$	-	\$ 3,607,900	\$	-
Panel Supports/Rack	\$ 1,449,200	\$	1,509,500	\$ -	\$	-	\$ 2,958,700	\$	-
Electrical & Wiring	\$ 190,100	\$	198,000	\$ -	\$	-	\$ 388,100	\$	-
Site Restoration	\$ 184,400	\$	192,000	\$ -	\$	3,155,300	\$ 3,531,700		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 12,100	\$	-	\$ 12,100	\$	-
Debris	\$ -	\$	-	\$ 3,100	\$	-	\$ 3,100	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		367,30
Subtotal	\$ 3,353,100	\$	3,492,600	\$ 500,600	\$	3,155,300	\$ 10,501,600	\$ (2,	367,3
Future Solar Site I Subtotal	\$ 3,353,100	\$	3,492,600	\$ 500,600	\$	3,155,300	\$ 10,501,600	\$ (2,	367,3
TOTAL DECOM COST (CREDIT)							\$ 10,501,600	\$ (2,	367,3
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 10,501,600	\$ (2,	367,3
TOTAL NET PROJECT COST (CREDIT)							\$ 8,134,300		



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Table A-18 Future Solar Site II Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	invironmental	Total Cost	Scra	p Value
ure Solar Site II									
Solar Farm									
Solar Panel Removal	\$ 1,529,400	\$	1,593,100	\$ 485,400	\$	-	\$ 3,607,900	\$	-
Panel Supports/Rack	\$ 1,449,200	\$	1,509,500	\$ -	\$	-	\$ 2,958,700	\$	-
Electrical & Wiring	\$ 190,100	\$	198,000	\$ -	\$	-	\$ 388,100	\$	-
Site Restoration	\$ 184,400	\$	192,000	\$ -	\$	3,155,300	\$ 3,531,700		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 12,100	\$	-	\$ 12,100	\$	-
Debris	\$ -	\$	-	\$ 3,100	\$	-	\$ 3,100	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		367,300
Subtotal	\$ 3,353,100	\$	3,492,600	\$ 500,600	\$	3,155,300	\$ 10,501,600	\$ (2,	367,300
Future Solar Site II Subtotal	\$ 3,353,100	\$	3,492,600	\$ 500,600	\$	3,155,300	\$ 10,501,600	\$ (2,	367,300
TOTAL DECOM COST (CREDIT)							\$ 10,501,600	\$ (2,	367,300
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 10,501,600	\$ (2,	367,300
TOTAL NET PROJECT COST (CREDIT)							\$ 8,134,300		



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Table A-19 Grange Hall Solar Solar Decommissioning Cost Summary

		N	laterial and						
	Labor	F	Equipment	Disposal	E	Invironmental	Total Cost	Scra	ap Value
ange Hall Solar									
Solar Farm									
Solar Panel Removal	\$ 1,670,100	\$	1,739,600	\$ 604,600	\$	-	\$ 4,014,300	\$	-
Panel Supports/Rack	\$ 2,578,500	\$	2,685,900	\$ -	\$	-	\$ 5,264,400	\$	-
Electrical & Wiring	\$ 80,400		83,800	-	\$	-	\$ 164,200		-
Site Restoration	\$ 78,500	\$	81,800	\$ -	\$	1,475,500	\$ 1,635,800	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 3,000	\$	-	\$ 3,000	\$	-
Debris	\$ -	\$	-	\$ 4,400	\$	-	\$ 4,400	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		,628,00
Subtotal	\$ 4,407,500	\$	4,591,100	\$ 612,000	\$	1,475,500	\$ 11,086,100	\$ (3	,628,000
Grange Hall Solar Subtotal	\$ 4,407,500	\$	4,591,100	\$ 612,000	\$	1,475,500	\$ 11,086,100	\$ (3	,628,00
TOTAL DECOM COST (CREDIT)							\$ 11,086,100	\$ (3	,628,00
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 11,086,100	\$ (3	,628,00
TOTAL NET PROJECT COST (CREDIT)							\$ 7,458,100		



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Table A-20 Jamison Solar Solar Decommissioning Cost Summary

Material and													
	Labor		Equipment			Disposal		Environmental		Total Cost		Scrap Value	
Jamison Solar													
Solar Farm													
Solar Panel Removal	\$	1,522,600	\$	1,586,000	\$	563,700	\$	-	\$	3,672,300	\$	-	
Panel Supports/Rack	\$	1,616,900	\$	1,684,300	\$	-	\$	-	\$	3,301,200	\$	-	
Electrical & Wiring	\$	321,300	\$	334,600		-	\$	-	\$	655,900	\$	-	
Site Restoration	\$	199,700	\$	208,100	\$	-	\$	3,124,300	\$	3,532,100		-	
On-site Concrete Crushing and Removal	\$	-	\$	-	\$	10,000	\$	-	\$	10,000	\$	-	
Debris	\$	-	\$	-	\$	4,100	\$	-	\$	4,100	\$	-	
Scrap	\$	-	\$	-	\$	-	\$	-	\$	-		3,500,400	
Subtotal	\$	3,660,500	\$	3,813,000	\$	577,800	\$	3,124,300	\$	11,175,600	\$ (3,500,400	
Jamison Solar Subtotal	\$	3,660,500	\$	3,813,000	\$	577,800	\$	3,124,300	\$	11,175,600	\$ (3,500,400	
TOTAL DECOM COST (CREDIT)									\$	11,175,600	\$ (3,500,400	
PROJECT INDIRECTS (0%)									\$	-			
CONTINGENGY (0%)									\$	-			
TOTAL PROJECT COST (CREDIT)									\$	11,175,600	\$ (3,500,400	
TOTAL NET PROJECT COST (CREDIT)									\$	7,675,200			

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Table A-21 Juniper Solar Solar Decommissioning Cost Summary

			N	laterial and						
		Labor	F	Equipment	Disposal	E	invironmental	Total Cost	Scra	p Value
niper Solar										
Solar Farm										
Solar Panel Removal	\$	1,454,200	\$	1,514,800	\$ 511,800	\$	-	\$ 3,480,800	\$	-
Panel Supports/Rack	Ŝ	1,522,600		1,586,000	-	\$	-	\$ 3,108,600		-
Electrical & Wiring	\$	179,700		187,100	-	\$	-	\$ 366,800		-
Site Restoration	\$	175,300	\$	182,600	\$ -	\$	3,499,700	\$ 3,857,600	\$	-
On-site Concrete Crushing and Remova	\$	-	\$	-	\$ 11,400	\$	-	\$ 11,400	\$	-
Debris	\$	-	\$	-	\$ 3,200	\$	-	\$ 3,200	\$	-
Scrap	\$	-	\$	-	\$ -	\$	-	\$ -		332,300)
Subtotal	\$	3,331,800	\$	3,470,500	\$ 526,400	\$	3,499,700	\$ 10,828,400	\$ (2,	332,300)
Juniper Solar Subtotal	\$	3,331,800	\$	3,470,500	\$ 526,400	\$	3,499,700	\$ 10,828,400	\$ (2,	332,300)
TOTAL DECOM COST (CREDIT)								\$ 10,828,400	\$ (2,	332,300)
PROJECT INDIRECTS (0%)								\$ -		
CONTINGENGY (0%)								\$ -		
TOTAL PROJECT COST (CREDIT)								\$ 10,828,400	\$ (2,	332,300)
TOTAL NET PROJECT COST (CREDIT)								\$ 8,496,100		

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Table A-22 Lake Hancock Solar Solar Decommissioning Cost Summary

		N	laterial and						
	Labor	F	Equipment	Disposal	E	Invironmental	Total Cost	Scra	p Value
ke Hancock Solar									
Solar Farm									
Solar Panel Removal	\$ 1,300,900	\$	1,355,100	\$ 414,500	\$	-	\$ 3,070,500	\$	-
Panel Supports/Rack	\$ 2,009,700	\$	2,093,400	\$ -	\$	-	\$ 4,103,100	\$	-
Electrical & Wiring	\$ 72,800	\$	75,900	\$ -	\$	-	\$ 148,700	\$	-
Site Restoration	\$ 44,800	\$	46,700	\$ -	\$	1,341,100	\$ 1,432,600	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 2,800	\$	-	\$ 2,800	\$	-
Debris	\$ -	\$	-	\$ 3,300	\$	-	\$ 3,300	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		889,500
Subtotal	\$ 3,428,200	\$	3,571,100	\$ 420,600	\$	1,341,100	\$ 8,761,000	\$ (2,8	889,500
Lake Hancock Solar Subtotal	\$ 3,428,200	\$	3,571,100	\$ 420,600	\$	1,341,100	\$ 8,761,000	\$ (2,8	89,500
TOTAL DECOM COST (CREDIT)							\$ 8,761,000	\$ (2,8	89,500
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 8,761,000	\$ (2,8	89,50
TOTAL NET PROJECT COST (CREDIT)							\$ 5,871,500		

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Table A-23 Lake Mabel Solar Solar Decommissioning Cost Summary

		N	Material and						
	Labor		Equipment	Disposal	E	nvironmental	Total Cost	Scra	p Value
ke Mabel Solar									
Solar Farm									
Solar Panel Removal	\$ 1,547,700	\$	1,612,200	\$ 526,700	\$	-	\$ 3,686,600	\$	-
Panel Supports/Rack	\$ 1,620,400	\$	1,687,900	\$ -	\$	-	\$ 3,308,300	\$	-
Battery Energy Storage System	\$ 193,400	\$	153,800	\$ 172,800	\$	-	\$ 520,000	\$	-
Electrical & Wiring	\$ 192,200		200,300	\$ -	\$	-	\$ 392,500		-
Site Restoration	\$ 186,600	\$	194,300	\$ -	\$	2,963,300	\$ 3,344,200		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 14,900	\$	-	\$ 14,900	\$	-
Debris	\$ -	\$	-	\$ 3,400	\$	-	\$ 3,400	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		121,600)
Subtotal	\$ 3,740,300	\$	3,848,500	\$ 717,800	\$	2,963,300	\$ 11,269,900	\$ (3,	121,600)
Lake Mabel Solar Subtotal	\$ 3,740,300	\$	3,848,500	\$ 717,800	\$	2,963,300	\$ 11,269,900	\$ (3,	121,600)
TOTAL DECOM COST (CREDIT)							\$ 11,269,900	\$ (3,	121,600)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 11,269,900	\$ (3,	121,600)
TOTAL NET PROJECT COST (CREDIT)							\$ 8,148,300		

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Table A-24 Laurel Oaks Solar Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	Invironmental	Total Cost	Scra	ap Value
urel Oaks Solar									
Solar Farm									
Solar Panel Removal	\$ 1,296,700	\$	1,350,700	\$ 430,400	\$	-	\$ 3,077,800	\$	-
Panel Supports/Rack	\$ 1,376,000	\$	1,433,300	\$ -	\$	-	\$ 2,809,300	\$	-
Electrical & Wiring	\$ 121,100	\$	126,000	\$ -	\$	-	\$ 247,100	\$	-
Site Restoration	\$ 112,400	\$	117,100	\$ -	\$	1,931,700	\$ 2,161,200	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 6,400	\$	-	\$ 6,400	\$	-
Debris	\$ -	\$	-	\$ 4,100	\$	-	\$ 4,100	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		217,600
Subtotal	\$ 2,906,200	\$	3,027,100	\$ 440,900	\$	1,931,700	\$ 8,305,900	\$ (2,	217,600
Laurel Oaks Solar Subtotal	\$ 2,906,200	\$	3,027,100	\$ 440,900	\$	1,931,700	\$ 8,305,900	\$ (2,	217,60
TOTAL DECOM COST (CREDIT)							\$ 8,305,900	\$ (2,	217,60
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 8,305,900	\$ (2,	217,60
TOTAL NET PROJECT COST (CREDIT)							\$ 6,088,300		

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Table A-25 Legoland Solar Solar Decommissioning Cost Summary

		Material and						
	Labor	Equipment	Disposal	E	nvironmental	Total Cost	Scr	ap Value
goland Solar								
Solar Farm								
Solar Panel Removal	\$ 27,800	\$ 29,000	\$ 9,500	\$	-	\$ 66,300	\$	-
Panel Supports/Rack	\$ 13,400	\$ 13,900	\$ -	\$	-	\$ 27,300	\$	-
Electrical & Wiring	\$ 25,400	\$ 26,400	\$ -	\$	-	\$ 51,800	\$	-
Site Restoration	\$ -	\$ -	\$ -	\$	24,600	\$ 24,600	\$	-
On-site Concrete Crushing and Remova	\$ -	\$ -	\$ 1,900	\$	-	\$ 1,900	\$	-
Debris	\$ -	\$ -	\$ 200	\$	-	\$ 200	\$	-
Scrap	\$ -	\$ -	\$ -	\$	-	\$ -	\$	(31,100)
Subtotal	\$ 66,600	\$ 69,300	\$ 11,600	\$	24,600	\$ 172,100	\$	(31,100)
Legoland Solar Subtotal	\$ 66,600	\$ 69,300	\$ 11,600	\$	24,600	\$ 172,100	\$	(31,100)
TOTAL DECOM COST (CREDIT)						\$ 172,100	\$	(31,100)
PROJECT INDIRECTS (0%)						\$ -		
CONTINGENGY (0%)						\$ -		
TOTAL PROJECT COST (CREDIT)						\$ 172,100	\$	(31,100)
TOTAL NET PROJECT COST (CREDIT)						\$ 141,000		

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Table A-26 Lithia Solar Solar Decommissioning Cost Summary

		N	Naterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Scra	p Value
nia Solar									
Solar Farm									
Solar Panel Removal	\$ 2,081,000	\$	2,167,600	\$ 736,200	\$	-	\$ 4,984,800	\$	-
Panel Supports/Rack	\$ 2,656,300	\$	2,766,900	\$ -	\$	-	\$ 5,423,200	\$	-
Electrical & Wiring	\$ 152,900	\$	159,300	\$ -	\$	-	\$ 312,200	\$	-
Site Restoration	\$ 80,900	\$	84,200	\$ -	\$	2,632,900	\$ 2,798,000	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 3,200	\$	-	\$ 3,200	\$	-
Debris	\$ -	\$	-	\$ 15,100	\$	-	\$ 15,100	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		272,200)
Subtotal	\$ 4,971,100	\$	5,178,000	\$ 754,500	\$	2,632,900	\$ 13,536,500	\$ (4,:	272,200)
Lithia Solar Subtotal	\$ 4,971,100	\$	5,178,000	\$ 754,500	\$	2,632,900	\$ 13,536,500	\$ (4,	272,200)
TOTAL DECOM COST (CREDIT)							\$ 13,536,500	\$ (4,:	272,200)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 13,536,500	\$ (4,:	272,200)
TOTAL NET PROJECT COST (CREDIT)							\$ 9,264,300		

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Table A-27 Little Manatee River Solar Decommissioning Cost Summary

		N	Aaterial and						
	Labor		Equipment	Disposal	E	Invironmental	Total Cost	Scra	ip Value
ittle Manatee River									
Solar Farm									
Solar Panel Removal	\$ 2,055,400	\$	2,141,000	\$ 727,100	\$	-	\$ 4,923,500	\$	-
Panel Supports/Rack	\$ 2,970,500	\$	3,094,200	\$ -	\$	-	\$ 6,064,700	\$	-
Electrical & Wiring	\$ 138,100	\$	143,900	\$ -	\$	-	\$ 282,000	\$	-
Site Restoration	\$ 105,300	\$	109,700	\$ -	\$	2,662,500	\$ 2,877,500	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 2,900	\$	-	\$ 2,900	\$	-
Debris	\$ -	\$	-	\$ 13,300	\$	-	\$ 13,300	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		602,400)
Subtotal	\$ 5,271,000	\$	5,490,600	\$ 743,300	\$	2,662,500	\$ 14,167,400	\$ (4,	602,400)
Little Manatee River Subtotal	\$ 5,271,000	\$	5,490,600	\$ 743,300	\$	2,662,500	\$ 14,167,400	\$ (4,	602,400)
TOTAL DECOM COST (CREDIT)							\$ 14,167,400	\$ (4,	602,400
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 14,167,400	\$ (4,	602,400
TOTAL NET PROJECT COST (CREDIT)							\$ 9,565,000		

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Table A-28 MacDill RICE and BESS Decommissioning Cost Summary

		Labor	1	Material and Equipment		Disposal		Environmental		Total Cost		Scrap Value
MacDill RICE and BESS												
Unit 1 and 2												
CTGs and HRSGs	\$	72,000	\$	116,000	\$	-	\$	-	\$	188,000	\$	-
Steam Turbine & Building	\$	59,000	\$	94,000	\$	-	\$	-	\$	153,000	\$	-
SCR	\$	50,000	ŝ	81,000	ŝ	-	\$	-	\$	131,000	\$	-
Stacks	\$	8,000		13,000	\$	-	\$	-	\$	21,000	\$	-
GSU & Foundation	\$	3,000	\$	5,000	\$	-	ŝ	-	ŝ	8,000	ŝ	-
On-site Concrete Crushing & Disposal	\$	-	ŝ	-	ŝ	29,000	\$	-	\$	29,000	\$	-
Debris	ŝ	-	ŝ	-	ŝ	4,000	ŝ	-	ŝ	4,000	ŝ	-
Scrap	ŝ	-	\$	-	\$	-	\$	-	ŝ	-	\$	(287,000)
Subtotal	\$	192,000	\$	309,000	\$	33,000	\$	-	\$	534,000	\$	(287,000)
Unit 3 and 4												
CTGs and HRSGs	\$	72,000	\$	116,000	\$	-	\$	-	\$	188,000	\$	-
Steam Turbine & Building	\$			94,000	\$	-	\$	-	\$	153,000	\$	-
SCR	\$	50,000	\$	81,000	\$	-	\$	-	\$	131,000	\$	-
Stacks	\$	8,000	\$	13,000	\$	-	\$	-	\$	21,000	\$	-
GSU & Foundation	\$	3,000	\$	5,000	\$	-	\$	-	\$	8,000	\$	-
On-site Concrete Crushing & Disposal	\$	-	\$	-	\$	29,000	\$	-	\$	29,000	\$	-
Debris	\$	-	\$	-	\$	4,000	\$	-	\$	4,000	\$	-
Scrap	\$	-	\$	-	\$	-	\$	-	\$	-	\$	(287,000)
Subtotal	\$	192,000	\$	309,000	\$	33,000	\$	-	\$	534,000	\$	(287,000)
BESS												
Battery Containers and Racks	\$	263,000	\$	187,000	\$	-	\$	-	\$	450,000	\$	-
Electrical & Wiring	\$	11,000	\$	17,000	\$	-	\$	-	\$	28,000	\$	-
Site Restoration	\$	27,000	\$	43,000	\$	-	\$	-	\$	70,000	\$	-
Grading & Seeding	\$	-	\$	-	\$	-	\$	12,000	\$	12,000	\$	-
On-site Concrete Crushing & Disposal	\$	-	\$	-	\$	5,000	\$	-	\$	5,000	\$	-
Debris	\$	-	\$	-	\$	4,000	\$	-	\$	4,000	\$	-
Scrap	\$	-	\$	-	\$	-	\$	-	\$	-	\$	(318,000)
Subtotal	\$	301,000	\$	247,000	\$	9,000	\$	12,000	\$	569,000	\$	(318,000)
Common												
BOP Misc.	\$	49,000	\$	79,000	\$	-	\$	-	\$	128,000	\$	-
All Other Tanks	\$	6,000	\$	10,000	\$	-	\$	-	\$	16,000	\$	-
Transformers & Foundation	\$	44,000	\$	71,000	\$	-	\$	-	\$	115,000	\$	-
Pond Closure	\$	-	\$	-	\$	-	\$	60,000	\$	60,000	\$	-
Concrete Removal, Crushing, & Disposal	\$	-	\$	-	\$	2,000	\$	-	\$	2,000	\$	-
Grading & Seeding	\$	-	\$	-	\$	-	\$	67,000	\$	67,000	\$	-
Debris	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Scrap	\$	-	\$	-	\$	-	\$	-	\$	-	\$	(375,000)
Subtotal	\$	99,000	\$	160,000	\$	2,000	\$	127,000	\$	388,000	\$	(375,000)
MacDill RICE and BESS Subtotal	\$	784,000	\$	1,025,000	\$	77,000	\$	139,000	\$	2,025,000	\$	(1,267,000)
TOTAL DECOM COST (CREDIT)									\$	2,025,000	\$	(1,267,000)
PROJECT INDIRECTS (0%)									\$	-		
CONTINGENGY (0%)									\$	-		
TOTAL PROJECT COST (CREDIT)									\$	2,025,000	\$	(1,267,000)
TOTAL NET PROJECT COST (CREDIT)									\$	758,000		

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Table A-29 Magnolia Solar Solar Decommissioning Cost Summary

		N	Naterial and						
	Labor		Equipment	Disposal	E	nvironmental	Total Cost	Scra	p Value
agnolia Solar									
Solar Farm									
Solar Panel Removal	\$ 1,579,300	\$	1,645,000	\$ 524,200	\$	-	\$ 3,748,500	\$	-
Panel Supports/Rack	\$ 1,683,900	\$	1,754,000	\$ -	\$	-	\$ 3,437,900	\$	-
Electrical & Wiring	\$ 109,100	\$	113,600	\$ -	\$	-	\$ 222,700	\$	-
Site Restoration	\$ 187,300	\$	195,100	\$ -	\$	4,350,500	\$ 4,732,900	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 5,600	\$	-	\$ 5,600	\$	-
Debris	\$ -	\$	-	\$ 3,700	\$	-	\$ 3,700	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		631,500)
Subtotal	\$ 3,559,600	\$	3,707,700	\$ 533,500	\$	4,350,500	\$ 12,151,300	\$ (2,6	631,500)
Magnolia Solar Subtotal	\$ 3,559,600	\$	3,707,700	\$ 533,500	\$	4,350,500	\$ 12,151,300	\$ (2,6	631,500)
TOTAL DECOM COST (CREDIT)							\$ 12,151,300	\$ (2,0	631,500)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 12,151,300	\$ (2,0	631,500)
TOTAL NET PROJECT COST (CREDIT)							\$ 9,519,800		

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Table A-30 Mountain View Solar Solar Decommissioning Cost Summary

		N	Material and						
	Labor		Equipment	Disposal	E	nvironmental	Total Cost	Sc	rap Valu
untain View Solar									
Solar Farm									
O&M Building	\$ 2,600	\$	2,700	\$ -	\$	-	\$ 5,300	\$	-
Solar Panel Removal	\$ 1,155,200	\$	1,203,300	\$ 439,200	\$	-	\$ 2,797,700	\$	-
Panel Supports/Rack	\$ 1,158,500	\$	1,206,700	\$ -	\$	-	\$ 2,365,200	\$	-
Battery Containers and Racks	\$ -	\$	-	\$ -	\$	-	\$ -	\$	-
Electrical & Wiring	\$ 111,600	\$	116,300	-	\$	-	\$ 227,900		-
Site Restoration	\$ 105,500	\$	109,900	\$ -	\$	1,581,300	\$ 1,796,700		-
On-site Concrete Crushing and Removal	\$ -	\$	-	\$ 5,400	\$	-	\$ 5,400	\$	
Debris	\$ -	\$	-	\$ 3,800	\$	-	\$ 3,800	\$	4 700
Scrap	\$ -	\$	-	\$ 	\$	-	\$ -		1,793,6
Subtotal	\$ 2,533,400	\$	2,638,900	\$ 448,400	\$	1,581,300	\$ 7,202,000	\$ (1,793,6
Mountain View Solar Subtotal	\$ 2,533,400	\$	2,638,900	\$ 448,400	\$	1,581,300	\$ 7,202,000	\$ (1,793,6
TOTAL DECOM COST (CREDIT)							\$ 7,202,000	\$ (1,793,
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 7,202,000	\$ (1,793,

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Table A-31 Payne Creek Solar Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Scra	ap Value
me Creek Solar									
Solar Farm									
Solar Panel Removal	\$ 1,968,700	\$	2,050,700	\$ 768,200	\$	-	\$ 4,787,600	\$	-
Panel Supports/Rack	\$ 2,787,000	\$	2,903,100	\$ -	\$	-	\$ 5,690,100	\$	-
Electrical & Wiring	\$ 134,200	\$	139,800	\$ -	\$	-	\$ 274,000	\$	-
Site Restoration	\$ 120,200	\$	125,200	\$ -	\$	2,457,400	\$ 2,702,800	\$	-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 5,100	\$	-	\$ 5,100	\$	-
Debris	\$ -	\$	-	\$ 8,800	\$	-	\$ 8,800	\$	-
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		,240,60
Subtotal	\$ 5,011,100	\$	5,219,900	\$ 782,100	\$	2,457,400	\$ 13,470,500	\$ (4,	,240,6
Payne Creek Solar Subtotal	\$ 5,011,100	\$	5,219,900	\$ 782,100	\$	2,457,400	\$ 13,470,500	\$ (4,	,240,6
TOTAL DECOM COST (CREDIT)							\$ 13,470,500	\$ (4 ,	,240,6
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 13,470,500	\$ (4 ,	,240,6
TOTAL NET PROJECT COST (CREDIT)							\$ 9,229,900		

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Table A-32 Peace Creek Solar Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Scra	ap Value
ace Creek Solar									
Solar Farm									
Solar Panel Removal	\$ 1,515,600	\$	1,578,700	\$ 485,400	\$	-	\$ 3,579,700	\$	-
Panel Supports/Rack	\$ 2,093,900	\$	2,181,100	\$ -	\$	-	\$ 4,275,000	\$	-
Electrical & Wiring	\$ 116,700		121,500	-	\$	-	\$ 238,200		-
Site Restoration	\$ 83,500	\$	87,000	\$ -	\$	1,436,800	\$ 1,607,300		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 4,500	\$	-	\$ 4,500	\$	-
Debris	\$ -	\$	-	\$ 6,100	\$	-	\$ 6,100	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		,300,70
Subtotal	\$ 3,811,000	\$	3,969,600	\$ 496,000	\$	1,436,800	\$ 9,713,400	\$ (3	,300,70
Peace Creek Solar Subtotal	\$ 3,811,000	\$	3,969,600	\$ 496,000	\$	1,436,800	\$ 9,713,400	\$ (3	,300,70
TOTAL DECOM COST (CREDIT)							\$ 9,713,400	\$ (3	,300,70
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 9,713,400	\$ (3	,300,70
TOTAL NET PROJECT COST (CREDIT)							\$ 6,412,700		



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Table A-33 Polk Decommissioning Cost Summary

		Labor		laterial and Equipment		Disposal		Environmental		Total Cost	;	Scrap Value
(
Unit 1CA												
CTGs and HRSGs	\$	800,000				-	\$	-	\$	2,087,000	\$	
Steam Turbine & Building	\$		\$		\$	-	\$	-	\$	1,275,000	\$	
SCR	\$		\$	55,000	\$	-	\$	-	\$	89,000	\$	
H2SO4 Plant	\$	320,000	\$	515,000	\$	-	\$	-	\$	835,000	\$	
Gassifer	\$	866,000	\$	1,392,000	\$	-	\$	-	\$	2,258,000	\$	
Stack	\$	35,000	\$	57,000	\$	-	\$	-	\$	92,000	\$	
GSU & Foundation	\$	62,000	\$	100,000	\$	-	\$	-	\$	162,000	\$	
On-site Concrete Crushing & Disposal	\$		\$	-	\$	46,000	\$	-	\$	46,000	\$	
Debris	\$		\$	-	\$	8,000	\$	-	\$	8,000	\$	
Scrap	\$		\$	-	\$	-	\$	-	\$	-	\$	(5,422,
Subtotal	\$		\$	4,192,000	\$	54,000	\$	-	\$	6,852,000	\$	(5,422,
Unit 2-5 CC												
CTGs and HRSGs	\$	2,892,000	\$	4,649,000	\$	_	\$	_	\$	7,541,000	\$	
Steam Turbine & Building	\$		ф \$	4,049,000	φ \$	-	φ \$	-	э \$	912,000	э \$	
Steam Turbine & Building SCR	э \$		э \$	189.000	ф \$	-	э \$	-	ъ \$	307.000	э \$	
	ъ \$		ъ \$		ъ \$	-	ֆ Տ	-	ֆ \$			
Cooling Towers & Basin						-		-		563,000	\$	
Stacks	\$		\$		\$	-	\$	-	\$	368,000	\$	
GSU & Foundation	\$		\$		\$	-	\$	-	\$	511,000	\$	
On-site Concrete Crushing & Disposal	\$		\$	-	\$	4,000	\$	-	\$	4,000	\$	
Scrap	\$	-	\$	-	\$	-	\$	-	\$	-	\$	(7,979,
Subtotal	\$	3,913,000	\$	6,289,000	\$	4,000	\$	-	\$	10,206,000	\$	(7,979,
Handling												
Coal Handling Facilites	\$	370,000	\$	594,000	\$	-	\$	-	\$	964,000	\$	
On-site Concrete Crushing & Disposal	\$	-	\$	-	\$	15,000	\$	-	\$	15,000	\$	
Debris	\$	-	\$	-	\$	43,000	\$	-	\$	43,000	\$	
Scrap	\$	-	\$	-	\$	-	\$	-	\$	-	\$	(173,
Subtotal	\$	370,000	\$	594,000	\$	58,000	\$	-	\$	1,022,000	\$	(173,
Common												
Switchyard and Substation	\$	21,000	\$	-	\$	-	\$	-	\$	21,000	\$	
Cooling Water Intakes and Circulating Water Pumps	\$	41,000	\$	66,000	\$	-	\$	473,000	\$	580,000	\$	
BOP Misc.	\$	633,000	\$	1,018,000	\$	-	\$	-	\$	1,651,000	\$	
Roads	\$		\$	270,000	\$	815,000	\$	-	\$	1,253,000	\$	
All BOP Buildings	\$		\$		\$	-	\$	_	\$	8,000	\$	
Fuel Equipment	\$		\$	262,000	\$		\$		\$	425,000	\$	
All Other Tanks	\$		\$	416,000	\$	_	\$	-	\$	675,000	\$	
Transformers & Foundation	\$		\$	410,000	\$	-	\$	393,000	\$	393,000	\$	
	э \$			-		-	э \$					
Mercury & Universal Waste Disposal			\$	-	\$	-		117,000	\$	117,000	\$	
Pond Closure	\$		\$	-	\$	-	\$	1,358,000	\$	1,358,000	\$	
Fuel Oil Tank Area Remediation	\$		\$	-	\$	-	\$	309,000	\$	309,000	\$	
Concrete Removal, Crushing, & Disposal	\$		\$	-	\$	68,000	\$	-	\$	68,000	\$	
Grading & Seeding	\$		\$	-	\$	-	\$	4,608,000	\$	4,608,000	\$	
Debris	\$		\$	-	\$	6,000	\$	-	\$	6,000	\$	
Scrap	\$		\$	-	\$	-	\$	-	\$	-	\$	(295,
Subtotal	\$	1,288,000	\$	2,037,000	\$	889,000	\$	7,258,000	\$	11,472,000	\$	(295,
Polk Subtotal	\$	8,177,000	\$	13,112,000	\$	1,005,000	\$	7,258,000	\$	29,552,000	\$	(13,869,
TOTAL DECOM COST (CREDIT)									\$	29,552,000	¢	(13,869,
										10,001,000	Ŷ	(10,000,
PROJECT INDIRECTS (0%)									\$	-		
									\$	-		
CONTINGENGY (0%)												
CONTINGENGY (0%) TOTAL PROJECT COST (CREDIT)									\$	29,552,000	\$	(13,869,

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Table A-34 Riverside Solar Solar Decommissioning Cost Summary

Labor										
		Equipment		Disposal	E	nvironmental		Total Cost	Scra	p Valu
\$ 3,300	\$	3,400	\$	-	\$	-	\$	6,700	\$	-
\$ 1,311,800	\$	1,366,500	\$	455,400	\$	-	\$	3,133,700	\$	-
\$ 1,317,000	\$	1,371,900	\$	-	\$	-	\$	2,688,900	\$	-
\$ -	\$	-	\$	-	\$	-	\$	-	\$	-
\$ 112,900	\$	117,600	\$	-	\$	-	\$		\$	-
\$ 197,400	\$	205,600	\$	-	\$	2,296,400	\$		\$	-
\$ -	\$	-	\$		\$	-	\$		\$	-
\$ -	\$	-	\$	3,200	\$	-	\$	3,200	\$	-
\$ -	\$	-	\$	-	\$	-	\$	-		
\$ 2,942,400	\$	3,065,000	\$	465,000	\$	2,296,400	\$	8,768,800	\$ (2,0)92,1
\$ 2,942,400	\$	3,065,000	\$	465,000	\$	2,296,400	\$	8,768,800	\$ (2,)92,1
							\$	8,768,800	\$ (2,	92,1
							\$	-		
							\$	-		
							\$	8,768,800	\$ (2,)92,1
							\$	6,676,700		
• \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 1,311,800 \$ 1,317,000 \$ 1317,000 \$ 197,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,942,400	\$ 1,311,800 \$ \$ 1,317,00 \$ \$ 1,317,00 \$ \$ 112,900 \$ \$ 197,400 \$ \$ - \$ \$ - \$ \$ - \$ \$ 2,942,400 \$	\$ 1,311,800 \$ 1,366,500 \$ 1,317,000 \$ 1,371,900 \$ - \$ - \$ 112,900 \$ 117,600 \$ 197,400 \$ 205,600 \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,942,400 \$ 3,065,000	\$ 1,311,800 \$ 1,366,500 \$ \$ 1,317,000 \$ 1,371,900 \$ \$ 1,317,900 \$ 1,371,900 \$ \$ 112,900 \$ 117,600 \$ \$ 197,400 \$ 205,600 \$ \$ - \$ - - \$ - \$ - \$ \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 1,311,800 \$ 1,366,500 \$ 455,400 \$ 1,317,000 \$ - \$ 1,317,900 \$ - \$ 112,900 \$ 117,600 \$ - \$ 1197,400 \$ 205,600 \$ - \$ 197,400 \$ 205,600 \$ - \$ - \$ - \$ 6,400 \$ - \$ - \$ 3,200 \$ - \$ - \$ - \$ 2,942,400 \$ 3,065,000 \$ 465,000	\$ 1,311,800 \$ 1,366,500 \$ 455,400 \$ \$ 1,317,000 \$ 1,371,900 \$ - \$ \$ 1,371,900 \$ - \$ \$ \$ \$ \$ - \$ - \$ - \$	\$ 1,311,800 \$ 1,366,500 \$ 455,400 \$ - \$ 1,317,000 \$ - \$ - \$ - \$ 1,317,000 \$ - \$ - \$ - \$ 1,317,000 \$ - \$ - \$ - \$ 112,900 \$ 117,600 \$ - \$ - \$ 1197,400 \$ 205,600 \$ - \$ 2,296,400 \$ - \$ - \$ 3,200 \$ - \$ - \$ - \$ 3,200 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 3,200 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 1,311,800 \$ 1,366,500 \$ 455,400 \$ \$ \$ 1,317,000 \$ 1,371,900 \$ \$ \$ \$ 1,317,900 \$ 1,371,900 \$ \$ \$ \$ 112,900 \$ 117,600 \$ \$ \$ \$ 197,400 \$ 205,600 \$ \$ 2,296,400 \$ \$ \$ 6,400 \$ \$ \$ 2,942,400 \$ 3,065,000 \$ 465,000 \$ 2,296,400 \$ \$ 2,296,400 \$ 3,065,000 \$ 465,000 \$ 2,296,400 \$ \$ 2,296,400 \$ 3,065,000 \$ 2,296,400 \$ \$ 3,065,000 \$ \$ 3,065,000	\$ 1,311,800 \$ 1,366,500 \$ 455,400 \$ - \$ 3,133,700 \$ 1,317,000 \$ 1,371,900 \$ - \$ - \$ 2,688,900 \$ - \$ - \$ - \$ - \$ 2,688,900 \$ - \$ - \$ - \$ - \$ 2,688,900 \$ - \$ - \$ - \$ - \$ 2,688,900 \$ \$ 117,600 \$ 117,600 \$ - \$ 2,296,400 \$ 2,699,400 \$ 2,699,400 \$ 3,200 \$ - \$ 3,209,400 \$ 3,209,400 \$ 3,209,400 \$ 3,209,400 \$ 3,209,400 \$ 3,209,400 \$ 3,209,400 \$ 3,209,400 \$ 3,209,400 \$ 8,768,800 \$ 2,296,400 \$ 8,768,800 \$ \$ 3,768,800 \$ - \$ \$ - \$ <t< td=""><td>\$ 1,311,800 \$ 1,366,500 \$ 455,400 \$ - \$ 3,133,700 \$ 1,317,000 \$ 1,371,900 \$ - \$ 2,688,900 \$ 1,317,000 \$ 1,371,900 \$ - \$ 2,688,900 \$ 2,688,900 \$ 112,900 \$ 117,600 \$ - \$ 2,296,400 \$ 2,699,400 \$ 197,400 \$ 107,400 \$ 205,600 \$ - \$ 2,296,400 \$ 2,699,400 \$ 2,699,400 \$ 2,699,400 \$ 2,699,400 \$ 2,699,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 3,065,000 \$ 465,000 \$ 2,296,400 \$ 3,768,800 \$ (2,0 \$ 2,942,400 \$ 3,065,000 \$ 465,000 \$ 2,296,400 \$ 3,768,800 \$ (2,0 \$</td></t<>	\$ 1,311,800 \$ 1,366,500 \$ 455,400 \$ - \$ 3,133,700 \$ 1,317,000 \$ 1,371,900 \$ - \$ 2,688,900 \$ 1,317,000 \$ 1,371,900 \$ - \$ 2,688,900 \$ 2,688,900 \$ 112,900 \$ 117,600 \$ - \$ 2,296,400 \$ 2,699,400 \$ 197,400 \$ 107,400 \$ 205,600 \$ - \$ 2,296,400 \$ 2,699,400 \$ 2,699,400 \$ 2,699,400 \$ 2,699,400 \$ 2,699,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 2,296,400 \$ 3,065,000 \$ 465,000 \$ 2,296,400 \$ 3,768,800 \$ (2,0 \$ 2,942,400 \$ 3,065,000 \$ 465,000 \$ 2,296,400 \$ 3,768,800 \$ (2,0 \$

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Table A-35 Tampa International Solar Decommissioning Cost Summary

		M	laterial and						
	Labor	E	Equipment	Disposal	E	nvironmental	Total Cost	Sc	rap Value
npa International									
Solar Farm									
Solar Panel Removal	\$ 32,800	\$	34,200	\$ 10,600	\$	-	\$ 77,600	\$	-
Panel Supports/Rack	\$ 329,900	\$	343,600	\$ -	\$	-	\$ 673,500	\$	-
Electrical & Wiring	\$ 3,400	\$	3,600	\$ -	\$	-	\$ 7,000		-
Site Restoration	\$ -	\$	-	\$ -	\$	35,900	\$ 35,900		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 21,500	\$	-	\$ 21,500	\$	-
Debris	\$ -	\$	-	\$ 400	\$	-	\$ 400	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -	\$	(296,1
Subtotal	\$ 366,100	\$	381,400	\$ 32,500	\$	35,900	\$ 815,900	\$	(296,1
Tampa International Subtotal	\$ 366,100	\$	381,400	\$ 32,500	\$	35,900	\$ 815,900	\$	(296,1
TOTAL DECOM COST (CREDIT)							\$ 815,900	\$	(296,1
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 815,900	\$	(296,1
TOTAL NET PROJECT COST (CREDIT)							\$ 519,800		



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Table A-36 Wimauma Solar Solar Decommissioning Cost Summary

		N	Material and						
	Labor		Equipment	Disposal	E	nvironmental	Total Cost	Scra	ap Value
mauma Solar									
Solar Farm									
Solar Panel Removal	\$ 2,054,900	\$	2,140,400	\$ 710,000	\$	-	\$ 4,905,300	\$	-
Panel Supports/Rack	\$ 2,942,900	\$	3,065,500	\$ -	\$	-	\$ 6,008,400	\$	-
Battery Energy Storage System	\$ 149,600	\$	119,000	\$ 133,300	\$	-	\$ 401,900	\$	-
Electrical & Wiring	\$ 85,400		89,000	-	\$	-	\$ 174,400		-
Site Restoration	\$ 96,700	\$	100,800	\$ -	\$	3,712,900	\$ 3,910,400		-
On-site Concrete Crushing and Remova	\$ -	\$	-	\$ 3,500	\$	-	\$ 3,500	\$	-
Debris	\$ -	\$	-	\$ 7,900	\$	-	\$ 7,900	\$	
Scrap	\$ -	\$	-	\$ -	\$	-	\$ -		267,300)
Subtotal	\$ 5,330,600	\$	5,515,900	\$ 854,700	\$	3,712,900	\$ 15,414,100	\$ (4,	267,300)
Wimauma Solar Subtotal	\$ 5,330,600	\$	5,515,900	\$ 854,700	\$	3,712,900	\$ 15,414,100	\$ (4	267,300)
TOTAL DECOM COST (CREDIT)							\$ 15,414,100	\$ (4	267,300)
PROJECT INDIRECTS (0%)							\$ -		
CONTINGENGY (0%)							\$ -		
TOTAL PROJECT COST (CREDIT)							\$ 15,414,100	\$ (4	267,300)
TOTAL NET PROJECT COST (CREDIT)							\$ 11,146,800		

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Project Director

Jeff Kopp, PE

Senior Managing Director, Energy & Utilities Consulting

Jeff is the Managing Director of Utility Consulting at 1898 & Co., part of Burns & McDonnell. He and his team specialize in consulting services for power generation and transmission and distribution projects. This includes power plant decommissioning studies, energy project development, due diligence reviews, resource planning, renewable project development, rate studies and analysis, transmission planning, distribution planning, and grid modernization.

PROJECT EXPERIENCE

Decommissioning Study / CenterPoint Energy Indiana South Indiana / 2023

Project director on a decommissioning study for the entire fleet of power generating facilities owned by CenterPoint Energy Indiana South. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included coal-fired plants, natural gas-fired simple and combined cycle units, landfill gas, wind farms, and solar projects. Subsequent to the studies, Jeff will be available to provide written and oral testimony regarding the study findings.

Decommissioning Study / Tampa Electric Company

Florida / 2017

Project director on a decommissioning study for the entire fleet of power generating facilities owned by Tampa Electric. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation includes a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects. Subsequent to the study, Jeff will be available to provide written and oral testimony in Tampa Electric's rate hearing regarding the study findings.

Decommissioning Study / Duke Energy

North Carolina, South Carolina, Kentucky, Indiana, Florida / 2022

Project director on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Carolinas, Duke Energy Progress, Duke Energy Kentucky, and Duke Energy Florida. The evaluations were performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included coal-fired plants, natural gas-fired simple and combined cycle units, gas fired boilers, hydro-electric plants, and solar projects. Subsequent to the studies, Jeff provided written and oral testimony in Duke Energy rate hearings in and Kentucky regarding the study findings.

Education

B.S. / Civil Engineering MBA / Business Administration

Registrations

 Professional Engineer (FL, IL, IN, MO)

22 years with 1898 & Co. 23 years of experience

Visit my LinkedIn profile.

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JEFF KOPP / PROJECT DIRECTOR

PROJECT EXPERIENCE

Decommissioning Study / CenterPoint Energy Indiana South

Indiana / 2022

Project director on a decommissioning study for the coal-fired AB Brown plant owned by CenterPoint Energy Indiana South. The evaluation was performed to determine the cost to demolish the unit and restore the site at the end of it's useful life to support regulatory filings. Subsequent to the study, Jeff provided written regarding the study findings.

Decommissioning Study / Northern Indiana Public Service Co.

Indiana / 2022

Project director on a decommissioning study for the entire fleet of power generating facilities owned by Northern Indiana Public Service Company. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included coal-fired plants, natural gas-fired simple and combined cycle units, hydro-electric plants, wind farms, solar farms, and battery energy storage projects. Subsequent to the studies, Jeff provided written and oral testimony in Duke Energy rate hearings in North Carolina and Kentucky regarding the study findings.

Decommissioning Study / Evergy Kansas, Missouri / 2021

Project director on a decommissioning study for the entire fleet of power generating facilities owned by Evergy in the States of Kansas and Missouri. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas-fired simple and combined cycle units, and wind farms. Subsequent to the study, Jeff is available to provide written and oral testimony in Evergy's rate case hearing regarding the study findings.

Decommissioning Study / FPL Energy

Florida, Georgia / 2020

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by FPL Energy and Gulf Power in the States of Florida and Georgia. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas-fired simple and combined cycle units, and solar generating facilities. Subsequent to the study, Jeff provided written testimony in FPL Energy's rate case hearing regarding the study findings.

Decommissioning Study / Xcel Energy

Colorado / 2020

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Xcel Energy in the State of Colorado. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas-fired simple and combined cycle units, and hydroelectric plants. Subsequent to the study, Jeff was available to provide written and oral testimony in Xcel Energy's rate hearing regarding the study findings.

Decommissioning Study / Apex Clean Energy New York / 2019

Project manager on a decommissioning study for a wind farm being developed in New York. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support Calpine's application to construct a major electric generating facility under Article 10 of the New York Public Service Law. Subsequent to the study, Jeff provided written testimony in the Article 10 public hearings regarding the study findings.

Decommissioning Study / Calpine New York / 2019

Project manager on a decommissioning study for a wind farm being developed in New York. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support Calpine's application to construct a major electric generating facility under Article 10 of the New York Public Service Law. Subsequent to the study, Jeff provided written testimony in the Article 10 public hearings regarding the study findings.

Decommissioning Study / Southwestern Public Service Texas, New Mexico / 2018

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Southwestern Public Service. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included coal-fired plants, natural gas-fired simple cycle units, and gas fired boiler projects. The report and results are being used in support of depreciation rates as part of the rate case filing. Jeff provided support through the regulatory process with written testimony



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JEFF KOPP / PROJECT DIRECTOR

in Southwestern Public Service's rate hearings regarding the study findings.

Decommissioning Study / Duke Energy Indiana / 2018

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Indiana. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included coal-fired plants, natural gas-fired simple and combined cycle units, solar projects, and a hydro-electric plant. Jeff provided support through the regulatory process with written testimony in Duke Energy Indiana's rate hearing regarding the study findings.

Decommissioning Study / Golden Valley Electric Association

Alaska / 2018

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Golden Valley Electric Association. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included a coal-fired plant, diesel and naphtha fired combustion turbine units, a battery energy storage facility, and a wind farm. Jeff provided written testimony in Golden Valley's Compliance Hearing regarding the retirement of their Healy Unit 1 project. Jeff also provided written testimony in Golden Valley's rate hearing regarding the study findings.

Decommissioning Study / Owensboro Municipal Utilities Kentucky / 2018

Project manager on a decommissioning study for coal fired generating facility owned by Owensboro Municipal Utilities. The evaluation was performed to determine the options for retiring the plant and associated costs. Options evaluated included placing one of the units into layup with the potential to restart at a later date, retirement in place, or full demolition and site restoration.

Decommissioning Study / Duke Energy Florida / 2018

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Florida. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects. Subsequent to the study, Jeff provided written testimony in Duke Energy Florida's rate hearing regarding the study findings.

Decommissioning Study / Tucson Electric Power Arizona / 2018

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Tucson Electric Power. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects. Subsequent to the study, Jeff was available to provide written and oral testimony in Tucson Electric Powers's rate hearing regarding the study findings.

Decommissioning Study / Public Service of New Mexico New Mexico / 2018

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Florida. The evaluation is being performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation includes a coal-fired plant, natural gasfired simple and combined cycle units, and solar projects.

Decommissioning Study / Capital Power Illinois / 2018

Project manager on a decommissioning study for a wind farm being developed in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff will be available to provide written and oral testimony in the county zoning hearings regarding the study findings.

Decommissioning Study / Calpine New York / 2018

Project manager on a decommissioning study for a wind farm being developed in New York. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support Calpine's application to construct a major electric generating facility under Article 10 of the New York Public Service Law. Subsequent to the study, Jeff provided written and oral testimony in the Article 10 public hearings regarding the study findings.

Decommissioning Study / Tradewind Energy Illinois / 2018



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JEFF KOPP / PROJECT DIRECTOR

Project manager on a decommissioning study for a wind being developed in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff will be available to provided support for the county zoning hearings regarding the study findings.

Decommissioning Study / Hawaii Electric Company Hawaii / 2018

Project manager on a decommissioning study for a reciprocating engine plant that was under construction for Hawaii Electric Company. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life.

Decommissioning Study / EDP Renewables Indiana / 2018

Project manager on a decommissioning study for a wind farm being developed in Indiana. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff provided written and oral testimony in the county zoning hearings regarding the study findings.

Decommissioning Study / EDP Renewables Illinois / 2018

Project manager on a decommissioning study for a wind farm being developed in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff provided oral testimony in the county zoning hearings regarding the study findings.

Due Diligence / Centerpoint Energy Indiana / 2017

Project manager for a due diligence evaluation of Vectren's fleet of power plants being considered as part of a potential full acquisition of Vectren by Centerpoint. The evaluation included a technical, environmental, and contractual review of the coal, simple cycle, and wind farm facilities. As part of the project, Jeff presented the results of the study to CenterPoint's board of directors to support their decision making process for the acquisition.

Due Diligence / PKA AIP

Michigan / 2017

Project manager for a due diligence evaluation of a combined cycle power plant being considered for potential equity investment by PKA AIP. The evaluation included a technical, environmental, and contractual review of the plant.

Decommissioning Study / Tampa Electric Company Florida / 2017

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Tampa Electric. The evaluation is being performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation includes a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects. Subsequent to the study, Jeff will be available to provide written and oral testimony in Tampa Electric's rate hearing regarding the study findings.

Decommissioning Asset Retirement Obligation Study / NRG Energy & Clearway Energy Various US Locations / 2017 - 2020

Project manager on a decommissioning study to evaluate the asset retirement obligation costs for numerous renewable energy facilities owned by NRG Energy throughout the United States. The evaluation was performed to determine the costs for any obligations to remove and/or demolish the facilities and equipment and perform environmental remediation and site restoration activities. The study was performed to support compliance with FAS 143 requirements.

Due Diligence / Confidential Client Northwest / 2017

Project manager for a due diligence evaluation of three natural gas fired combine cycle power plants being considered for potential acquisition. The evaluation included a technical, environmental, and contractual review of the facilities.

Decommissioning Study / Confidential Client Illinois / 2017

Project manager for a site retirement evaluation to help determine the cost to retire a 600 MW coal-fired project in Illinois at the end of its useful life. Estimates for demolition and site restoration were included in the evaluation. Jeff previously prepared decommissioning study estimates for this plant with the updated study being performed to reflect current pricing and changes in regulations.

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JEFF KOPP / PROJECT DIRECTOR

Decommissioning Study / AEP

Ohio, Indiana / 2017

Project manager on a decommissioning study for two coal fired power plants owned by Ohio Valley Electric Company and Indiana Kentucky Electric Company, both of which AEP is the largest shareholder. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives for purposes of accruing the costs over the life of the plants.

Decommissioning Study / OGE Energy Corp. Oklahoma / 2017

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by OGE Energy in Oklahoma. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support depreciation rates. The evaluation included several coal-fired plants, natural gas fired boilers, natural gas-fired simple and combined cycle units, and a wind farm. Subsequent to the study, Jeff provided written testimony, and is currently providing support in replying to discovery requests. Jeff will be available to provide oral testimony in OGE Energy's rate hearing regarding the study findings.

Decommissioning Study / Duke Energy

North Carolina, South Carolina, Kentucky / 2017

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Carolinas, Duke Energy Progress, and Duke Energy Kentucky. The evaluations were performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included coal-fired planst, natural gas-fired simple and combined cycle units, gas fired boilers, hydro-electric plants, and solar projects. Subsequent to the study, Jeff provided written and oral testimony in Duke Energy rate hearings in North Carolina and Kentucky regarding the study findings.

Useful Life Assessment / Confidential Client Southeast / 2017

Project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility and associated costs to achieve that life. The study supported financial modeling of the facility as part of the utility's portfolio of assets.

Useful Life Assessment / Confidential Client Southeast / 2017

Project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility and associated costs to achieve that life. The study supported financial modeling of the facility as part of the utility's portfolio of assets.

Decommissioning Study / FPL Energy Florida / 2015

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by FPL Energy in the State of Florida. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas-fired simple and combined cycle units, solar generating facilities. Subsequent to the study, Jeff provided written and oral testimony in FPL Energy's rate case hearing regarding the study findings.

Decommissioning Study / Xcel Energy Colorado / 2014

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Xcel Energy in the State of Colorado. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas-fired simple and combined cycle units, hydroelectric plants, and a wind farm. Subsequent to the study, Jeff is provided written and oral testimony in Xcel Energy's rate hearing regarding the study findings.

Decommissioning Cost Evaluation / Progress Energy Florida Florida / 2008-2009

Project manager on a site retirement cost evaluation for all the fossil fuel-fired power generating facilities owned by Progress Energy in the state of Florida. The evaluation was performed to determine the costs to demolish the units and restore the sites and included a natural gasfired steam plants, fuel oil-fired steam plants, natural gas-fired combustion turbines, coal-fired facilities, and combined cycle generating facilities. Subsequent to the study, Jeff provided direct testimony in Progress Energy Florida's rate case regarding the study findings.

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Decommissioning Asset Retirement Obligation Study / NRG Energy California / 2016

Project manager on a decommissioning study to evaluate the asset retirement obligation costs for all the fossil fuel-fired power generating facilities owned by NRG Energy in the state of California. The evaluation was performed to determine the costs for any legally obligations to demolish facilities and equipment and perform environmental remediation and site restoration activities. The facilities included a natural gas and fuel oil fired plants consisting of boilers, combustion turbines, and combined cycle generating facilities.

Due Diligence / Confidential Client

Northeast / 2016

Project manager for a due diligence evaluation of a portfolio of power generation assets. The assets included gas and oil fired boilers, combined cycle combustion turbines, and simple cycle combustion turbines. The client was considering acquiring an equity stake in the facilities. The evaluation included a technical, environmental, and contractual review of the facilities. The review primarily focused on evaluation of recent repairs to the facilities, remaining life of the equipment, and potential large capital cost requirements to identify key risks or fatal flaws.

Due Diligence / Confidential Client Northeast / 2016

Project manager for a due diligence evaluation of a coal fired power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facilities. The review primarily focused on evaluation of the condition of the equipment and facilities, upgrades required to comply with environmental regulations, and other major capital or O&M projects to identify key risks or fatal flaws.

Due Diligence / Confidential Client Northeast / 2016

Project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine any development risks or fatal flaws.

Decommissioning Study / PacifiCorp

Oregon, Washington, Wyoming / 2016

Project manager on a decommissioning study for three wind farms owned by PacifiCorp. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives in support of determining depreciation rates.

Due Diligence / Confidential Client Northeast / 2016

Project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, EPC contract, equipment contracts, and other development activities to determine any development risks or fatal flaws.

Due Diligence / Confidential Client Southeast / 2016

Project manager for a due diligence evaluation of a natural gas fired combined cycle power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facility. The review primarily focused on evaluation of the condition of the equipment, sufficiency of contractual arrangements, and environmental compliance to identify key risks or fatal flaws

Decommissioning Study / Big Rivers Electric Cooperative Kentucky / 2016

Project manager on a decommissioning study for two coal-fired power generating facilities owned by Big Rivers Electric Cooperative. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives.

Due Diligence / Confidential Client Northeast / 2016

Project manager for a due diligence evaluation of a natural gas fired combined cycle power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facility. The review primarily focused on evaluation of the condition of the equipment, sufficiency of contractual arrangements, design issues surrounding recent plant performance challenges, and environmental compliance to identify key risks or fatal flaws.



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Useful Life Assessment / Confidential Client Southeast / 2015

Project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility to support financing of the project associated with acquisition of the facility.

Decommissioning Study / Nebraska Public Power District

Nebraska / 2015

Project manager on a decommissioning study for five power generating facilities owned by Nebraska Public Power District. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included two coal-fired plants, a natural gas-fired boiler plant, a combined cycle plant, and a wind farm.

Decommissioning Study / Lafayette Utilities System Louisiana / 2015

Project manager on a decommissioning study for a coal fired generating facility in the state of Louisiana. The evaluation was performed to determine the costs for options to retire the units in place or demolish the units and restore the site now that the units are no longer operating. The costs are being used for planning purposes by the client, to determine the preferred decommissioning plan for the plant.

Decommissioning Study / Colstrip Energy Montana / 2015

Project manager on a decommissioning study for a coal fired generating facility in the state of Montana. The evaluation was performed to determine the costs to demolish the unit and restore the site at the end of its useful life. The costs were used for planning purposes by the client, to determine the decommissioning funds that need to be accrued throughout the operating life of the facility.

Due Diligence / Confidential Client

Northeast / 2015

Project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine whether the project was economically attractive and determine any development risks or fatal flaws.

Decommissioning Study / Apex Clean Energy

Various Locations / 2015

Project manager for a site retirement cost evaluation for three proposed wind energy facilities under development. The evaluation was performed to support permitting activities on the facilities.

Decommissioning Study / Oklahoma Gas & Electric Oklahoma / 2014

Project manager on a decommissioning study for a power generating facility in the Midwest. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life. The plant was expected to retire within a year or two of the study, and the costs were used for planning purposes by the client.

Decommissioning Study / Basin Electric Cooperative North Dakota & Wyoming / 2014

Project manager on a decommissioning study for five power generating facilities in the North Dakota and Wyoming. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful life. The costs are being used for planning purposes by the client.

Coal Plant Layup / Hoosier Energy Indiana / 2014

Project manager on the preparation of a plan to place a coal fired generating facility in long term layup reserve status. The project included preparation of three manuals for the implementation of the layup plan, maintaining the plant during the layup period, and reactivating the plant at the end of the layup period.

Decommissioning Study / Apex Clean Energy Illinois / 2014

Project manager for a site retirement cost evaluation for a proposed wind energy facility under development. The evaluation was performed to support permitting activities on the facility.

Decommissioning Study / Confidential Client Midwest / 2014

Project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering



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acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine whether the project was economically attractive and determine any development risks or fatal flaws.

Due Diligence / Duke Energy Florida / 2014

Project manager for a due diligence evaluation of the Osprey Energy Center combined cycle generating facility being offered for sale. Duke Energy was considering acquiring the facility from the current owner. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. Duke successfully acquired the facility and utilized the Independent Engineer's Report prepared by 1898 & Co. to support the regulatory process through acquisition of the facility.

Due Diligence / Confidential Client

Southeast / 2014

Project manager for a due diligence evaluation of a cogeneration facility being offered for sale. The client was considering acquiring the facility from the current owner. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility, including a review of potential modifications to the facility due to the loss of the steam host and associated costs.

Due Diligence / Indiana Municipal Power Agency Indiana / 2014

Project manager for a due diligence evaluation of a coal-fired generating facility being offered for sale. The client was considering acquiring the assets from the current owner. The evaluation includes a technical, environmental, and contractual review of the coal fired generation facility.

Due Diligence / Kansas Municipal Power Agency Missouri / 2014

Project manager for a due diligence evaluation of a combined cycle generating facility being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility.

Strategic Site Selection Study / Confidential Client Midwest / 2013

Lead on site selection study for a new natural gas fired combined cycle generating resource in the Midwest. The study included evaluating greenfield and brownfield sites to determine the most attractive sites and the limiting factors to development at each site.

Strategic Site Selection Study / Confidential Client Northeast / 2013

Lead on site selection study for a new gas processing facility in the northeast. The study included evaluating potential greenfield locations for a cryogenic gas processing plant to handle wet and dry gas from the Utica and Marcellus Shale areas.

Site Evaluations / Confidential Client Southeast / 2013

Lead on the evaluation of three potential sites for a new natural gas fired combined cycle generating facility in the Southeast. The study included reviewing three sites previously selected by the client and ranking those sites relative to one another to determine their suitability for the natural gas-fired generation options under consideration.

Decommissioning Study / Arizona Public Service Arizona / 2013

Project manager on a decommissioning study for a four-steam electric generating facilities in the southwest. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included two coal-fired plants, and two natural gas and fuel oil fired boilers.

Decommissioning Study / Confidential Client Texas / 2013

Lead on a decommissioning study for a coal fired generating facility in Texas. The study included evaluating options to place the plant in reserve shutdown status or completely retire the plant and perform full plant demolition.

Decommissioning Study / Confidential Client Upper Midwest / 2013

Project manager on a decommissioning study for a coal fired generating facility in the upper Midwest. The study included phasing the retirement dates of portions of the facility and performing selective demolition as appropriate with full demolition to be complete at the end of useful life of the entire facility. The study also included evaluating potential value of equipment for sale on the secondary market.

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Decommissioning Study / Confidential Client

Ohio River Valley / 2013

Project manager on a decommissioning study for two coal fired generating facilities in the Ohio River Valley. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful life. The costs are being used for planning purposes by the client.

Decommissioning Study / EDP Renewables Illinois / 2013

Project manager on a decommissioning study for a wind farm being developed in New York. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support Calpine's application to construct a major electric generating facility under Article 10 of the New York Public Service Law. Subsequent to the study, Jeff will be available to provide written testimony in the Article 10 public hearings regarding the study findings.

Strategic Site Selection Study / Confidential Client Western Kansas / 2012

Lead on a strategic site selection study for a new natural gas fired generation resource in the state of Kansas. The study resulted in the identification of multiple viable site alternatives to support the natural gas-fired generation options under consideration.

Due Diligence / Confidential Client

Northeast / 2012

Project manager for a due diligence evaluation of a coal-fired generating facility being offered for sale. The client was considering acquiring the assets from the current owner. The evaluation includes a technical, environmental, and contractual review of the coal fired generation facility.

Due Diligence / Old Dominion Electric Cooperative Pennsylvania / 2012

Jeff provided support for a due diligence evaluation of a facility under development, that included a 2-on-1 combined cycle power block, being offered for sale. The client was considering acquiring the site from the current owner. The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility. The evaluation included a review of existing agreements and permits in place to facilitate development of the generation resource. The project also included a review of the project capital costs to determine whether the costs were reasonable, and to identify any gaps that may increase the overall project cost.

Due Diligence / Old Dominion Electric Cooperative New Jersey / 2012

Project manager for a due diligence evaluation of a facility that was under construction at the time, and was being offered for sale. The client was considering acquiring the 2-on-1 combined cycle power generating facility, from the current owner. The evaluation included a technical, environmental, and contractual review of the including a review of existing agreements and permits in place. The project also included a review of the project capital costs to determine whether the costs were reasonable, and to identify any gaps that may increase the overall project cost.

Due Diligence / Old Dominion Electric Cooperative Virginia / 2012

Project manager for a due diligence evaluation of a facility under development, that included a 2-on-1 combined cycle power block, being offered for sale. The client was considering acquiring the site from the current owner. The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility. The evaluation included a review of existing agreements and permits in place to facilitate development of the generation resource. The project also included a review of the project capital costs to determine whether the costs were reasonable, and to identify any gaps that may increase the overall project cost.

Due Diligence / Confidential Client Southeast / 2012

Jeff assisted with a due diligence evaluation of a facility that includes two, 2-on-1 combined cycle power blocks, being offered for sale. The client was considering acquiring the assets from the current owner. The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility.

Development Assistance / Tenaska Ohio / 2012

Project manager assisting a client with the preparation of a Certificate of Environmental Compatibility and Public Need for conversion of an existing simple cycle facility to combined cycle. The facility includes five combustion turbines, four of which will be converted to two, 2-on-1 combined cycle power blocks. The project includes full preparation of the Certificate of Environmental Compatibility and Public Need application, as well as public meeting support.



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Repower Assessment / Confidential Client North Dakota / 2011

Jeff assisted a client with an evaluation comparing the economic viability of retrofitting an existing coal-fired power plant with air quality control system equipment in comparison to replacing the plant with new natural gas fired generation. The project includes preparing capital cost estimates; operating and maintenance cost estimates, and determining the net present value of each alternative evaluate the relative economic attractiveness of each alternative.

Decommissioning Study / Progress Energy

North Carolina & South Carolina / 2011

Project manager on a decommissioning study for the entire fleet of power generating facilities owned by Progress Energy Carolinas. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included several coal-fired plants, as well as several natural gas-fired and fuel oil-fired units.

Decommissioning Study / Minnesota Power Minnesota / 2011

Project manager on a decommissioning study for several power generating facilities owned by Minnesota Power. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included three coalfired plants and a biomass fired facility.

Strategic Site Selection Study / Old Dominion Electric Cooperative

Virginia, Maryland, Pennsylvania, Delaware / 2011

Project manager on a strategic site selection study for a 750 MW combined cycle facility. The study resulted in the identification of multiple viable site alternatives to support the natural gas-fired generation option under consideration.

Due Diligence Evaluation / Old Dominion Electric Cooperative

Pennsylvania / 2011

Project manager on a due diligence evaluation of a 2-on-1 combined cycle facility being offered for sale by Liberty Electric in Pennsylvania. The client was considering acquiring the assets from the current owner.

The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility.

Due Diligence Evaluation / Tyr Energy Florida / 2011

Project manager on a due diligence evaluation of a biomass power generating facility under development by American Renewables. The client was considering an equity investment in the facility. The evaluation included a 100 MW bubbling fluidized bed boiler and steam turbine.

Due Diligence Evaluation / Electric Cooperative Maryland / 2011

Project manager on a due diligence evaluation of a combined cycle facility under development in Maryland. The client was considering acquiring the site and all the development rights for installation of a 2on-1 combined cycle facility. The evaluation included a review of existing agreements and permits in place to facilitate development of the generation resource.

Decommissioning Study / Tampa Electric Co. Florida / 2011

Project manager on a decommissioning study for the power generating facilities owned by Tampa Electric Company. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included a coal-fired plant, an integrated gasification combined cycle plant, and several natural gas-fired units.

Decommissioning Study / Confidential Client Illinois / 2011

Project manager for a site retirement evaluation to help determine the cost to retire a 600 MW coal-fired project in Illinois at the end of its useful life. Estimates for demolition and site restoration were included in the evaluation.

Repower Assessment / Confidential Client Minnesota / 2010

Jeff assisted a client with an evaluation comparing the economic viability of retrofitting an existing coal-fired power plant with air quality control system equipment in comparison to replacing the plant with new natural gas fired generation. The project includes preparing capital cost estimates; operating and maintenance cost estimates, and determining



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the net present value of each alternative evaluate the relative economic attractiveness of each alternative.

Biomass Plant Site Selection Study / Confidential Client Texas / 2010

Project manager for a Site Selection Study for a Biomass project to be located in Texas. The project included ranking of candidate sites to determine a preferred site for development of a 20 MW biomass power generating facility.

Due Diligence Evaluation / Tyr Energy Multiple Locations / 2010

Project manager on a due diligence evaluation for several natural gasfired facilities being offered for sale by Tenaska. The client was considering an equity investment in the facilities. The evaluation included four combined cycle facilities and one simple cycle facility.

Power Plant Valuation Assessment / Basin Electric **Power Cooperative** North Dakota / 2010

Project manager to provide a valuation assessment of the Antelope Valley Station Unit 2, which is being considered for purchase by Basin Electric Power Cooperative. The project includes valuing the 25 year old 450 MW coal fired unit in current dollars and at specified dates in the future.

Wind Farm Evaluation / Minnesota Power North Dakota / 2010

Project manager to provide an evaluation of a proposed wind farm development in central North Dakota. The project includes wind resource assessments, conceptual engineering design, capital cost estimates, and estimated busbar costs for development of wind farm project in phases on the land currently under contract.

Decommissioning Cost Evaluations / Horizon Wind Energy

Midwest / 2008-2010

Project manager on multiple site retirement cost evaluations for several proposed wind energy facilities under development by Horizon Wind Energy. The evaluations were performed to support permitting activities on the facilities.

Due Diligence Evaluation / Tyr Energy Hawaii / 2010

Project manager on a due diligence evaluation for a biomass gasification generating facility under development in Hawaii. The client was considering the facility for investment. The evaluation included a Primenergy gasifier with a net plant output of approximately 12 MW.

Project Development Assistance / Tradewind Energy Kansas / 2009-2010

Project manager to provide development assistance on a wind farm facility in Southern Kansas. The development assistance includes support on land acquisition efforts for the project, transmission line routing and preliminary design, power collection system preliminary design, and general project development assistance.

Project Development Assistance / Tradewind Energy Missouri / 2007-2010

Project manager to provide development assistance on two wind turbine facilities in Northern Missouri. The development assistance includes support on land acquisition efforts for the project, transmission line routing and preliminary design, power collection system preliminary design, and general project development assistance.

Decommissioning Cost Evaluation / Northern Indiana Public Service Co. Indiana / 2008

Project manager on a site retirement cost evaluation for several generating facilities owned by NIPSCO. The evaluation was performed to determine the costs to demolish the units and restore the sites and included several coal-fired facilities and a combined cycle generating facility.

Due Diligence Evaluation / Grays Harbor Public Utility District

Washington / 2008

Project manager on a due diligence evaluation for a biomass-fired cogeneration facility being offered for sale in Washington. The facility evaluated was a paper mill that had been shutdown for several years. The facility included a wood waste fired boiler that provided steam to a steam turbine for electric power generation as well as providing plant process steam.

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Due Diligence Evaluation / Tyr Energy

New Mexico / 2008

Project manager on a due diligence evaluation for a natural gas-fired power generating facility being offered for sale in New Mexico. The evaluation included two Mitsubishi 501F combustion turbines operating in combined cycle mode.

Decommissioning Cost Evaluation / Horizon Wind Energy

Illinois / 2008

Project manager on a site retirement cost evaluation for a wind farm being proposed by Horizon Wind Energy in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the sites to meet the county zoning requirements.

Due Diligence Evaluation / Tyr Energy

Western U.S. / 2008

Project manager on a due diligence evaluation for several natural gasfired power generating facilities being offered for sale throughout the western United States. The evaluation included several GE LM6000 combustion turbines operating in simple cycle mode, several GE LM6000 combustion turbines operating in combined cycle mode, one GE 7EA combustion turbine operating in combined cycle mode, and one GE 7FA combustion turbine operating in simple cycle mode.

Due Diligence Evaluation / Tyr Energy Virginia / 2007

Project manager on a due diligence evaluation for a generating facility being offered for sale in Virginia. The evaluation included 7 GE LM6000 fuel oil fired combustion turbines operating in simple cycle mode.

Due Diligence Evaluation / Tyr Energy Colorado / 2007

Project manager on a due diligence evaluation for 5 GE LM6000 combustion turbines operating in combined cycle cogeneration mode with 2 steam turbines. The facility includes a greenhouse that serves as the plant's thermal host for cogeneration operations.

Project Development Assistance / Mesa Wind Power Texas / 2007

Jeff provided development assistance on a 4,000 MW wind turbine facility located in the panhandle of Texas. The development assistance includes pro forma economic modeling of the project.

Due Diligence Evaluation / Kelson Energy Ohio / 2007

Project manager on a due diligence evaluation for a generating facility being offered for sale in Ohio. The evaluation included a partially constructed 2x1 Siemens Westinghouse 7FA combined cycle generating facility.

Due Diligence Evaluation / Grand River Dam Authority Oklahoma / 2007

Project manager on a due diligence evaluation for a generating facility being offered for sale in Oklahoma. The evaluation included a 4x2 GE 7FA combined cycle generating facility.

Due Diligence Evaluation / Brazos Electric Power Cooperative Texas / 2007

Project manager on a due diligence evaluation for the purchase of an equity share of a generating facility being constructed in Texas. The evaluation included an 890 MW supercritical pulverized coal fired generating facility.

Due Diligence Evaluation / Tyr Energy Florida / 2007

Project manager on a due diligence evaluation for a generating facility being offered for sale in Florida. The evaluation included 3 GE 7FA combustion turbines operating in simple cycle mode. .

Cost Estimate Preparation / Direct Energy Texas / 2007

Project manager for the preparation of planning level cost estimates for a new combined cycle facility to be constructed in Texas.

Due Diligence Evaluation / Tyr Energy

Various U.S Locations / 2007

Project manager on a due diligence evaluation for several generating facilities being offered for sale throughout the U.S. The evaluation included a coal, natural gas, and wind power facilities.



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Owner's Engineer Services / Grays Harbor PUD Washington / 2007

Project manager on an owner's engineer project to evaluate the plans for installation of a refurbished steam turbine at a paper mill. The evaluation included the review of the design for the installation of a 7 MW steam turbine.

Decommissioning Cost Evaluation / Tyr Energy

Various U.S Locations / 2007

Project manager on a site retirement cost evaluation for several generating facilities owned by Tyr Energy. The evaluation was performed to satisfy FASB 143 accounting standards and included a simple cycle and combined cycle generating facilities.

Due Diligence Evaluation / Tyr Energy

Virginia / 2006-2007

Project manager on a due diligence evaluation for a generating facility being offered for sale in Virginia. The evaluation included a 240 MW subcritical pulverized coal fired facility.

Due Diligence Evaluation / Brazos Electric Power Cooperative Texas / 2006

Project manager on a due diligence evaluation for a generating facility being offered for sale in Texas. The evaluation included a 1x1 GE 7FA combined cycle generating facility and 2 GE 7FA combustion turbines operating in simple cycle mode.

Due Diligence Evaluation / Kelson Energy Ohio / 2007

Project manager on a due diligence evaluation for a generating facility being offered for sale in Ohio. The evaluation included a partially constructed 2x1 Siemens Westinghouse 7FA combined cycle generating facility.

Generation Alternatives Study / Ottertail Power Company

North Dakota / 2006

Project manager on a Generation Alternatives Study for the addition of a new 600 MW coal fired unit at an existing coal fired facility. The study includes a pro forma analysis of the technologies considered.

Technology Assessment / Minnesota Power South Dakota / 2006

Assisted with a technology assessment for the addition of a new 500 MW coal fired unit at an existing coal fired facility. The study includes a pro forma analysis of the technologies considered.

Technology Assessment & Feasibility Study / Ottertail Power Co. Minnesota / 2006

Project manager on a feasibility study and technology assessment for the addition of a new 500 MW coal fired unit at an existing coal fired facility. The study includes conceptual site layouts, cost estimates, performance estimates, and water balances.

Project Development Assistance / Tradewind Energy Kansas / 2005-2006

Project manager to provide development assistance on a 250MW wind turbine facility in Central Kansas. The development assistance includes conceptual design and technical support for the development phase of the project.

Siting Study & Technology Assessment / Arizona Public Service

Arizona/New Mexico / 2005-2006

Assisted with a siting study and technology assessment for a 1,800 MW coal fired facility in Arizona and Northwestern New Mexico. Development resulted in the identification of multiple viable site alternatives to support coal-fired generation options.

Due Diligence Evaluation / Tyr Energy California / 2005-2006

Project manager on a due diligence evaluation for four generating facilities being offered for sale in California. The evaluation included simple cycle facilities consisting of Pratt & Whitney FT8 Twinpacs. **Professional Services: 2005-2006**

Waste-to-Energy Feasibility Study / CPS Energy Texas / 2005

Assisted with a feasibility study for a new waste-to-energy facility in the State of Texas. The study included a pro forma analysis of the facility considered.



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Due Diligence Evaluation / Tyr Energy

Oklahoma / 2006

Project manager on a due diligence evaluation for a generating facility being offered for sale in Oklahoma. The evaluation included a simple cycle facility consisting of four General Electric 7EA turbines.

Due Diligence Evaluation / Cinergy

Indiana / 2005

Project manager on a due diligence evaluation for a generating facility being offered for sale in Indiana. The evaluation included a simple cycle facility consisting of four Siemens Westinghouse 501D5A turbines.

Due Diligence Evaluation / kRoad Power

Various Locations / 2003-2004

Project manager on due diligence evaluations for several generating facilities being offered for sale throughout the United States. The evaluations included four combined cycle plants utilizing Siemens Westinghouse 501G turbines.

Due Diligence Evaluation / kRoad Power Various Locations / 2003

Project manager on due diligence evaluations for several generating facilities being offered for sale by Duke Energy. The evaluations included two combined cycle plants and one simple cycle plant utilizing General Electric 7FA turbines and General Electric 7EA turbines respectively.

Decommissioning Cost Evaluation / Old Dominion Electric Cooperative

Maryland/Virginia / 2002-2004

Project manager on several site retirement evaluations to help determine the cost to retire the facilities at the end of their useful life. The evaluations included simple cycle plants utilizing General Electric 7FA turbines and Caterpillar Diesel Gensets. Estimates for demolition and site restoration were included.

Decommissioning Cost Evaluation / Western Farmers Electric Cooperative

Oklahoma / 2004

Project manager on a site retirement evaluation to determine the approximate cost to retire the facilities, prepare demolition contract documents, and evaluate bids. The evaluation included a duel fuel genset site.

Decommissioning Cost Evaluation / Panda Energy North Carolina / 2003

Project manager on a site retirement evaluation to help determine the cost to retire the Panda-Rosemary Project at the end of its useful life. The evaluation included a combined cycle cogeneration facility in Roanoke Rapids, North Carolina. Estimates for demolition and site restoration were included in the evaluation.

Independent Engineer's Report / Panda Energy

North Carolina / 2003-2004

Produced an Independent Engineer's Report for the Panda-Rosemary Project. The report included a due diligence evaluation of plant performance and financial assessment of a combined cycle cogeneration facility in Roanoke Rapids, North Carolina.

Decommissioning Cost Evaluation / Sempra Energy Arizona / 2003

Provided a site retirement evaluation to help determine the cost to retire the Mesquite Energy Generating Facility at the end of its useful life. The evaluation included a combined cycle plant near Phoenix, Arizona. Estimates for demolition and site restoration were included in the evaluation.

Feasibility Study / Northeast Utility Service Corp New Hampshire / 2004

Assisted with a feasibility study to replace an existing coal-fired unit with a new coal fired unit. The study included the installation of a single 600 MW unit in New Hampshire. A pro forma analysis of the new unit was prepared and benchmarked against a pro forma analysis for the existing unit.

Technology Assessment & Feasibility Study / Ottertail Power Corp

South Dakota / 2006

Assisted with a technology assessment and feasibility study for a new coal-fired generation facility in South Dakota. The study included a pro forma analysis of the alternative technologies considered.

Waste-to-Energy Feasibility Study / CPS Energy Texas / 2005

Assisted with a feasibility study for a new waste-to-energy facility in the State of Texas. The study included a pro forma analysis of the facility considered.

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JEFF KOPP / PROJECT DIRECTOR

Technology Assessment & Feasibility Study / Progress Energy Florida / 2004

Assisted with a technology assessment and feasibility study for new solid fuel fired generation in the State of Florida. The study included a pro forma analysis of the alternative technologies considered.

Resources Corporation Project Development Assistance / Peoples Energy Oregon / 2001-2004

Provided project development assistance for a 1,200 MW combined cycle power plant in Oregon. Mr. Kopp assisted in the preparation of an Energy Facility Site Certificate including preliminary engineering design, preparation and review of written exhibits, and public presentation support.

Project Development Assistance / Peoples Energy Resources Corporation New Mexico / 2001-2004

Provided project development assistance for a simple cycle power plant in New Mexico. Mr. Kopp provided preliminary engineering design and project development assistance. This included preparing preliminary site design drawings that were approved by the county zoning commission during the site design review process as well as public presentation support.

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Testimony Experience

Jeff Kopp, PE

Senior Managing Director – Energy & Utilities Consulting

Regulatory Agency	Docket No.	Client Represented	Subject
North Carolina Utilities Commission	Docket No. E-7, Sub 1276	Duke Energy Carolinas	Rate Case – Decommissioning
			Costs
The State Corporation Commission of	Docket No. 23-EKCE-775-	Evergy Metro, Inc., Evergy Kansas	Rate Case – Decommissioning
the State of Kansas	RTS	Central, Inc. and Evergy Kansas South,	Costs
		Inc.	
Kentucky Public Service Commission	Case No. 2022-00372	Duke Energy Kentucky	Rate Case – Decommissioning
			Costs
New Mexico Public Regulation	Case No. 22-00286-UT	Southwestern Public Service Company	Rate Case – Decommissioning
Commission			Costs
Public Utility Commission of Texas	PUC Docket No. 54634	Southwestern Public Service Company	Rate Case – Decommissioning
			Costs
Public Service Commission of the	Case No. ER-2022-0129	Evergy Missouri Metro	Rate Case – Decommissioning
State of Missouri			Costs
Indiana Utility Regulatory Commission	Cause No. 45772	Northern Indiana Public Service Co.	Rate Case – Decommissioning
			Costs
Indiana Utility Regulatory Commission	Cause No. 45722	Centerpoint Energy Indiana South	Securitization Filing -
			Decommissioning Costs
Public Service Commission of the	Case No. ER-2022-0129	Evergy Missouri Metro	Rate Case – Decommissioning
State of Missouri			Costs
Public Service Commission of the	Case No. ER-2022-0130	Evergy Missouri West	Rate Case – Decommissioning
State of Missouri			Costs
Florida Public Service Commission	Docket No. 20210015-EI	Florida Power & Light Company	Rate Case – Decommissioning
			Costs
Florida Public Service Commission	Docket No. 20210016-EI	Duke Energy Florida	Rate Case – Decommissioning
			Costs
Florida Public Service Commission	Docket No. 20200264-EI	Tampa Electric Company	Rate Case – Decommissioning
			Costs
Kentucky Public Service Commission	2019-00269	Big Rivers Electric Corporation	Enforcement of Rate and Service
			Standards - Decommissioning
Public Utility Commission of Texas	PUC Docket No. 49831	Southwestern Public Service Company	Rate Case – Decommissioning
			Costs
New Mexico Public Regulation	Case No. 19-00170-UT	Southwestern Public Service Company	Rate Case – Decommissioning
Commission			Costs
Indiana Utility Regulatory Commission	Cause No. 45253	Duke Energy Indiana	Rate Case – Decommissioning
			Costs
The Corporation Commission of the	PUD 201800140	Oklahoma Gas and Electric	Rate Case – Decommissioning
State of Oklahoma			Costs
The Regulatory Commission of Alaska	U-18-010	Golden Valley Electric Association	Retirement Report for Healy Unit
			1 – Decommissioning Costs
Florida Public Service Commission	090079-EI	Progress Energy Florida	Rate Case – Decommissioning
			Costs

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Testimony Experience

Jeff Kopp, PE

Senior Managing Director – Energy & Utilities Consulting

Regulatory Agency	Docket No.	Client Represented	Subject
Minnesota Public Utilities Commission	E017/M-10-1082	Otter Tail Power Company	Advanced Determination of
			Prudence – AQCS Upgrades
Public Service Commission of the	PU-11-165	Otter Tail Power Company	Advanced Determination of
State of North Dakota			Prudence – AQCS Upgrades
Public Utilities Commission of the	14AL-0660E	Public Service Company of Colorado	Rate Case – Decommissioning
State of Colorado			Costs
Public Utilities Commission of the	16A-0231E	Public Service Company of Colorado	2016 Revised Depreciation Rates
State of Colorado			
Florida Public Service Commission	160021-EI; 160062-EI	Florida Power & Light Company	Rate Case – Decommissioning
			Costs
Kentucky Public Service Commission	2017-00321	Duke Energy Kentucky	Rate Case – Decommissioning
			Costs
North Carolina Utilities Commission	Docket No. E-2, Sub 1142	Duke Energy Progress	Rate Case – Decommissioning
			Costs
North Carolina Utilities Commission	Docket No. E-7, Sub 1146	Duke Energy Carolinas	Rate Case – Decommissioning
			Costs
Corporation Commission of Oklahoma	Cause No. PUD	Oklahoma Gas and Electric	Rate Case – Decommissioning
	201700496		Costs