Summary
8/9/2016 8:27:34 AM

Differences exist between documents.

New Document:	**Old Document:**
Corrected Report	Filed Report
48 pages (677 KB)	48 pages (643 KB)
8/9/2016 8:27:24 AM	8/9/2016 8:27:24 AM
Used to display results.	

Get started: first change is on page 1.

No pages were deleted

How to read this report

Highlight indicates a change.
~~**Deleted**~~ indicates deleted content.
 indicates pages were changed.
 indicates pages were moved.

Florida Power & Light Company

2016 Dismantlement Study
(Corrected)

Babcock Ranch Solar
Cape Canaveral
Cedar Bay
Citrus Solar
DeSoto Solar
Ft. Myers
Lauderdale
Manatee
Manatee Solar
Martin
Martin Solar
Okeechobee
Port Everglades
Riviera Beach
Sanford
Scherer
Space Coast Solar
St. Johns River
Turkey Point
West County

Table of Contents

Section

Section 1
Executive Summary

FLORIDA POWER & LIGHT COMPANY
2016 DISMANTLEMENT STUDY
EXECUTIVE SUMMARY

Florida Power & Light Company ("FPL") engaged Burns & McDonnell Engineering Company, Inc. ("BMcD") to perform a site specific fossil plant dismantlement cost study in 2015, which estimated the cost to dismantle FPL's fossil and solar plants to be approximately $467.2 million in 2015 dollars. BMcD's study included all of FPL's existing plants as well as plants that FPL is projected to place in service through 2020, with the exception of the Cedar Bay cogeneration facility. FPL acquired the Cedar Bay cogeneration facility in September 2015 and engaged NorthStar Demolition and Remediation LP as part of the due diligence in that transaction to provide an estimate to dismantle the facility (which was approximately $4.5 million). That estimate did not provide a breakdown of the component costs. The total amount of FPL's dismantlement costs, including the Cedar Bay cogeneration facility, escalated through 2016 is $478.3 million, as follows:

	(in millions) 2016 $	% of Total
Material & Equipment	$ 298	62%
Labor	286	60%
Burial	26	5%
Cedar Bay	5	1%
Salvage	(137)	(28)%
Total	$ 478	100%

FPL's previous dismantlement study was filed in 2009 and was approved by the Florida Public Service Commission ("FPSC") in Order No. PSC-10-0153-FOF-EI (Docket No. 090130-EI). The current dismantlement study reflects the impact of the updated cost estimates, retirement and additions of several units since the last study and the amortization of a portion of the dismantlement reserve as approved by the FPSC as part of FPL's 2012 Rate Settlement in Order No. PSC-13-0023-S-EI (Docket No. 120015-EI). A comparative analysis of significant drivers of the change in the resulting accrual since the previous study is contained in Section 2.

Section 1
Executive Summary

PLANT RETIREMENTS

FPL has retired and dismantled the following generating units since the 2009 dismantlement study:

Generating Unit	Retirement Date
Repowered Units – Partial Dismantlement	
Cape Canaveral Unit 1	2010
Cape Canaveral Unit 2	2010
Pt. Everglades Unit 1	2012
Pt. Everglades Unit 2	2012
Pt. Everglades Unit 3	2013
Pt. Everglades Unit 4	2013
Riviera Unit 3	2011
Riviera Unit 4	2011
Final Retirement – Full Dismantlement	
Cutler Unit 5	2012
Cutler Unit 6	2012
Putnam Unit 1	2014
Putnam Unit 2	2014
Sanford Unit 3	2012

In addition, FPL plans to retire the following units during 2016 and begin dismantlement in 2017:

Generating Unit	Retirement Date
Cedar Bay	2016
Fort Myers Gas Turbines	2016
Lauderdale Gas Turbines	2016
Pt. Everglades Gas Turbines	2016

FPL has also converted Turkey Point Units 1 and 2 from steam generating units to synchronous condensers in 2016 and 2013, respectively. As part of the conversion, FPL has and will incur costs to partially dismantle these units, but ultimate dismantlement is assumed to occur following the retirement of Turkey Point Unit 5 estimated to be in 2047.

Section 1
Executive Summary

PLANT ADDITIONS

FPL has added or will add by 2020 the following generating units since the 2009 dismantlement study.

Generating Unit	In-Service
Babcock Ranch Solar	2016
Cape Canaveral Clean Energy Center	2012
Cedar Bay (purchase date)	2015
Citrus Solar	2016
Fort Myers Peaking Units	2016
Lauderdale Peaking Units	2016
Manatee Solar	2016
Okeechobee Clean Energy Center	2019
Pt. Everglades Clean Energy Center	2016
Riviera Clean Energy Center	2014

DISMANTLEMENT RESERVE AMORTIZATION

As part of the 2012 Rate Settlement approved by the FPSC in Order No. PSC-13-0023-S-EI (Docket No. 120015-EI), FPL was authorized to amortize up to $176 million of the dismantlement reserve, subject to certain conditions. This amount was reduced to $146 million as part of the Cedar Bay settlement approved by the FPSC in Order No. PSC-15-0401-AS-EI (Docket No. 150075-EI). The utilization of the entire $146 million of dismantlement reserve amortization has been reflected in the current dismantlement study.

RETIREMENT DATES

The estimated retirements dates contained in the current dismantlement study are based on the retirement dates estimated in the 2016 depreciation study prepared by Gannett Fleming, which has also been filed in this docket.

ESCALATION RATES

The future cost of dismantlement is forecast by analyzing the individual cost categories from BMcD's cost study as described above. The 2015 cost of each category is divided into components of labor, material and equipment, disposal and salvage. These components are escalated by the estimated inflationary rates for compensation per hour, Producer Price Index (Intermediate Material), Gross Domestic Product (Implicit Price Deflator) and Metal and Metal Products. Section 5 contains a schedule of the applicable escalation rates for each category. FPL used the same data vendor, Global Insight, to obtain the inflation forecast as was used in the previous study. Global Insight, a division of IHS Inc., is an economics organization and considered a leading provider of economic data and analytics, and serves over 3,800 clients in industry, finance and

Section 1
Executive Summary

government, employing more than 600 staff in 23 offices in 13 countries.

The cost estimate obtained by applying Global Insight rates yields the future cost of dismantlement using currently available technologies and procedures, as shown in Section 4. The methodology used to determine the escalation rate for converting the current estimated dismantlement cost to future estimated dismantlement cost is consistent with the guidance set out in FPSC Rule 25-6.04364 and that used in the preparation of the prior dismantlement.

CONTINGENCY ALLOWANCE

The overall contingency allowance of 16% used by the Company in its prior study and approved in Order No. PSC-10-0153-FOF-EI (Docket 090130-EI) was increased by BMcD to 20% in the 2016 study, which is consistent with BMcD's experience with actual costs relative to estimated costs.

CONCLUSION

The annual dismantlement accrual for FPL is $26.2 million, based on total dismantlement cost in 2016 dollars of $478.3 million. FPL requests that the annual accrual be effective January 1, 2017. Section 6 of this report provides the calculation of the annual accrual.

Section 2

Drivers of Change in Dismantlement Accrual

	2009 Study Annual Accrual [1]	Plant Retirements/Adj [1]	New Plants	Reserve Amortization [2]	Updated Costs and Escalation Rates [3]	2016 Study Annual Accrual	*dif*
Clause	$ 453,816	$ -	$ -	$ -	$ 339,786	$ 793,602	$ 339,786
Steam	9,711,696	(3,258,085)	1,130,063	2,736,264	2,384,534	12,704,472	2,992,776
Other	8,302,875	(769,136)	3,932,512	1,630,900	(414,006)	12,683,144	4,380,269
	$ 18,468,387	**$ (4,027,222)**	**$ 5,062,574**	**$ 4,367,164**	**$ 2,310,315**	**$ 26,181,218**	**$ 7,712,832**

Notes:

[1] Includes St. Lucie Wind which was not constructed

[2] Reflects amortization of $146 million of dismantlement reserve enabled by Order No. PSC-13-0023-S-EI (Docket No. 120015-EI).

[3] Includes $52 million reallocation of theoretical dismantlement reserve surplus

Section 3

Comparison of Current Accruals and Proposed Accruals

Plant Site	Per Docket No. 090130-EI Order No. PSC-10-0153-FOF-EI Annual Accrual	Proposed Annual Accrual Effective 1/1/2017	Increase / (Decrease) in Annual Dismantlement Accrual
Babcock Ranch Solar[1]	$ 0	$ 380,369	$ 380,369
Cape Canaveral[2]	252,203	826,866	574,663
Cedar Bay[1]	0	1,130,063	1,130,063
Citrus Solar[1]	0	380,369	380,369
Cutler[2]	333,801	0	(333,801)
Desoto Solar	72,712	146,241	73,529
Ft. Myers	1,317,305	1,488,098	170,792
Lauderdale	1,251,191	2,261,757	1,010,566
Manatee	2,559,415	3,125,649	566,235
Manatee Solar[1]	0	380,369	380,369
Martin	2,533,098	3,614,148	1,081,050
Martin Solar	346,160	594,662	248,502
Okeechobee[1]	0	312,960	312,960
Port Everglades[2]	2,802,360	1,058,639	(1,743,721)
Putnam[2]	405,297	0	(405,297)
Riviera[2]	89,182	695,313	606,131
Sanford[2]	1,493,396	1,020,440	(472,956)
Scherer	1,634,157	2,317,556	683,399
Space Coast Solar	34,944	52,699	17,754
St. Johns River	869,586	958,937	89,351
St. Lucie Wind[3]	30,038	0	(30,038)
Turkey Point[2]	1,111,193	3,258,891	2,147,698
West County	1,332,348	2,177,193	844,845
Total	**$ 18,468,387**	**$ 26,181,218**	**$ 7,712,832** [A]

[A] Total increase in dismantlement accrual	$ 7,712,832
Less accrual for solar units (DeSoto, Martin and Space Coast) recovered through clause	339,785
Increase in base rate dismantlement accrual	$ 7,373,047 [4]

Notes:

[1] Added since 2009 Dismantlement Study

[2] Plant was partially dismantled or fully dismantled since 2009 Dismantlement Study as a result of a repowering, final retirement of a unit or conversion to synchronous condenser (Turkey Point)

[3] Plant was not constructed

[4] After-tax amount is $4,528,894. This corrected amount is different than the after-tax amount of $5,419,038 reflected as a Per Book Company Adjustment on MFR C-3 for both the 2017 Test Year and 2018 Subsequent Year.

Section 4

Calculation of Current and Future Jurisdictional Dismantlement Costs

2017 Jurisdictional Factor: 95.05950%

Site/Unit	Dismantlement Cost in 2016 Dollars	Dismantlement Cost in Future Dollars	Jurisdictional Dismantlement Cost in 2016 Dollars	Jurisdictional Dismantlement Cost in Future Dollars
Babcock Ranch Solar	$ 6,601,101	$ 17,928,699	$ 6,274,973	$ 17,042,932
Cape Canaveral				
Common	8,745,382	28,861,856	8,313,316	27,435,936
Unit 1	7,122,444	28,452,355	6,770,560	27,046,667
Cedar Bay	4,520,250	4,520,250	4,296,927	4,296,927
Citrus Solar	6,601,101	17,928,699	6,274,973	17,042,932
DeSoto Solar	2,338,490	5,108,176	2,222,957	4,855,807
Ft. Myers				
Common	19,702,679	48,380,642	18,729,268	45,990,396
Unit 2	9,039,546	26,346,751	8,592,947	25,045,089
Unit 3	1,568,707	4,498,227	1,491,205	4,275,992
Unit 4 (Combustion Turbine Peakers)	1,727,318	7,691,861	1,641,980	7,311,844
Gas Turbines	297,386	1,522,405	282,694	1,447,191
Lauderdale				
Common	19,099,027	34,238,552	18,155,439	32,546,996
Unit 4	4,346,178	8,578,351	4,131,455	8,154,538
Unit 5	4,340,750	8,569,391	4,126,295	8,146,021
Unit 6 (Combustion Turbine Peakers)	4,226,112	18,894,765	4,017,320	17,961,269
Gas Turbines	281,335	1,458,950	267,435	1,386,871
Manatee				
Common	31,234,151	50,931,140	29,691,028	48,414,887
Unit 1	10,574,637	18,040,007	10,052,197	17,148,740
Unit 2	10,574,637	18,040,007	10,052,197	17,148,740
Unit 3	6,732,122	20,971,186	6,399,522	19,935,105
Manatee Solar	6,601,101	17,928,699	6,274,973	17,042,932
Martin				
Common	46,459,059	80,096,302	44,163,749	76,139,144
Unit 1	10,112,774	19,210,487	9,613,152	18,261,393
Unit 2	10,112,774	19,210,487	9,613,152	18,261,393
Unit 3	2,857,402	6,218,011	2,716,232	5,910,810
Unit 4	2,864,092	6,200,760	2,722,592	5,894,411
Unit 8	6,668,321	20,995,725	6,338,872	19,958,432
Martin Solar	10,856,697	28,672,889	10,320,322	27,256,305
Okeechobee				
Common	5,726,113	25,084,242	5,443,214	23,844,955
Unit 1	6,641,891	34,869,012	6,313,748	33,146,309
Port Everglades				
Common	6,426,572	25,097,705	6,109,067	23,857,753
Unit 5	6,079,219	28,862,811	5,778,875	27,436,844
Gas Turbines	1,935,975	2,069,493	1,840,328	1,967,250
Riviera Beach				
Common	6,452,457	21,761,919	6,133,673	20,686,772
Unit 5	7,051,684	29,015,737	6,703,296	27,582,214
Sanford				
Common	10,290,606	24,963,942	9,782,199	23,730,599
Unit 4	6,424,194	18,370,483	6,106,806	17,462,889
Unit 5	6,397,182	17,670,475	6,081,129	16,797,465
Scherer				
Common	33,972,828	80,197,672	32,294,400	76,235,506
Unit 4	1,028,362	2,298,020	977,555	2,184,486
Handling	15,403,424	34,564,384	14,642,418	32,856,730
Space Coast Solar	886,054	2,003,712	842,278	1,904,718
St. Johns River				
Common	14,532,336	33,148,871	13,814,366	31,511,151
Unit 1	3,258,795	7,356,102	3,097,794	6,992,674
Unit 2	3,258,795	7,356,102	3,097,794	6,992,674
Handling	1,137,429	2,406,861	1,081,235	2,287,950
Turkey Point				
Common	14,068,274	38,409,418	13,373,231	36,511,800
Unit 1	13,564,981	41,798,519	12,894,803	39,733,463
Unit 2	7,384,545	24,170,409	7,019,711	22,976,270
Unit 5	10,235,882	34,458,323	9,730,179	32,755,910
West County				
Common	20,101,515	59,631,111	19,108,400	56,685,036
Unit 1	6,576,917	23,791,257	6,251,984	22,615,850
Unit 2	6,603,614	23,882,502	6,277,362	22,702,587
Unit 3	6,631,175	25,774,470	6,303,562	24,501,083
Totals	**$ 478,276,387**	**$ 1,238,509,183**	**$ 454,647,143**	**$ 1,177,320,637**

Section 4

Calculation of Current and Future Jurisdictional Dismantlement Costs

2018 Jurisdictional Factor: 95.12840%

Site/Unit	Dismantlement Cost in 2016 Dollars	Dismantlement Cost in Future Dollars	Jurisdictional Dismantlement Cost in 2016 Dollars	Jurisdictional Dismantlement Cost in Future Dollars
Babcock Ranch Solar	$ 6,601,101	$ 17,928,699	$ 6,279,521	$ 17,055,285
Cape Canaveral				
Common	8,745,382	28,861,856	8,319,342	27,455,822
Unit 1	7,122,444	28,452,355	6,775,467	27,066,271
Cedar Bay	4,520,250	4,520,250	4,300,042	4,300,042
Citrus Solar	6,601,101	17,928,699	6,279,521	17,055,285
DeSoto Solar	2,338,490	5,108,176	2,224,568	4,859,326
Ft. Myers				
Common	19,702,679	48,380,642	18,742,843	46,023,731
Unit 2	9,039,546	26,346,751	8,599,175	25,063,242
Unit 3	1,568,707	4,498,227	1,492,286	4,279,091
Unit 4 (Combustion Turbine Peakers)	1,727,318	7,691,861	1,643,170	7,317,144
Gas Turbines	297,386	1,522,405	282,899	1,448,240
Lauderdale				
Common	19,099,027	34,238,552	18,168,598	32,570,586
Unit 4	4,346,178	8,578,351	4,134,449	8,160,448
Unit 5	4,340,750	8,569,391	4,129,286	8,151,925
Unit 6 (Combustion Turbine Peakers)	4,226,112	18,894,765	4,020,232	17,974,288
Gas Turbines	281,335	1,458,950	267,629	1,387,876
Manatee				
Common	31,234,151	50,931,140	29,712,549	48,449,979
Unit 1	10,574,637	18,040,007	10,059,483	17,161,170
Unit 2	10,574,637	18,040,007	10,059,483	17,161,170
Unit 3	6,732,122	20,971,186	6,404,160	19,949,554
Manatee Solar	6,601,101	17,928,699	6,279,521	17,055,285
Martin				
Common	46,459,059	80,096,302	44,195,760	76,194,330
Unit 1	10,112,774	19,210,487	9,620,120	18,274,629
Unit 2	10,112,774	19,210,487	9,620,120	18,274,629
Unit 3	2,857,402	6,218,011	2,718,201	5,915,094
Unit 4	2,864,092	6,200,760	2,724,565	5,898,684
Unit 8	6,668,321	20,995,725	6,343,467	19,972,898
Martin Solar	10,856,697	28,672,889	10,327,802	27,276,060
Okeechobee				
Common	5,726,113	25,084,242	5,447,159	23,862,238
Unit 1	6,641,891	34,869,012	6,318,325	33,170,333
Port Everglades				
Common	6,426,572	25,097,705	6,113,495	23,875,045
Unit 5	6,079,219	28,862,811	5,783,064	27,456,730
Gas Turbines	1,935,975	2,069,493	1,841,662	1,968,676
Riviera Beach				
Common	6,452,457	21,761,919	6,138,119	20,701,766
Unit 5	7,051,684	29,015,737	6,708,154	27,602,206
Sanford				
Common	10,290,606	24,963,942	9,789,289	23,747,799
Unit 4	6,424,194	18,370,483	6,111,233	17,475,546
Unit 5	6,397,182	17,670,475	6,085,537	16,809,640
Scherer				
Common	33,972,828	80,197,672	32,317,807	76,290,762
Unit 4	1,028,362	2,298,020	978,264	2,186,070
Handling	15,403,424	34,564,384	14,653,031	32,880,545
Space Coast Solar	886,054	2,003,712	842,889	1,906,099
St. Johns River				
Common	14,532,336	33,148,871	13,824,379	31,533,991
Unit 1	3,258,795	7,356,102	3,100,039	6,997,742
Unit 2	3,258,795	7,356,102	3,100,039	6,997,742
Handling	1,137,429	2,406,861	1,082,018	2,289,609
Turkey Point				
Common	14,068,274	38,409,418	13,382,924	36,538,265
Unit 1	13,564,981	41,798,519	12,904,150	39,762,262
Unit 2	7,384,545	24,170,409	7,024,799	22,992,923
Unit 5	10,235,882	34,458,323	9,737,231	32,779,652
West County				
Common	20,101,515	59,631,111	19,122,250	56,726,122
Unit 1	6,576,917	23,791,257	6,256,516	22,632,242
Unit 2	6,603,614	23,882,502	6,281,912	22,719,042
Unit 3	6,631,175	25,774,470	6,308,131	24,518,841
Totals	**$ 478,276,387**	**$ 1,238,509,183**	**$ 454,976,675**	**$ 1,178,173,970**

Section 5

Escalation Rates Used to Calculate Future Dismantlement Costs

INFLATION FORECAST
The U.S. Economy
GLOBAL INSIGHT
30 Year Outlook (May 2015)

	Compensation per Hour (Non-Farm)		Producer Price Index (Intermediate Materials)		GDP Deflator (Implicit)		METAL & METAL PRODUCTS	
YEAR	ANNUAL RATE OF CHANGE	COMPOUNDED MULTIPLIER FROM 2015	ANNUAL RATE OF CHANGE	COMPOUNDED MULTIPLIER FROM 2015	ANNUAL RATE OF CHANGE	COMPOUNDED MULTIPLIER FROM 2015	ANNUAL RATE OF CHANGE	COMPOUNDED MULTIPLIER FROM 2015
2015	2.7%	1.000	-7.3%	1.000	1.1%	1.000	-5.0%	1.000
2016	3.5%	1.035	0.9%	1.009	2.0%	1.020	-0.6%	0.994
2017	3.7%	1.073	2.6%	1.036	2.0%	1.040	1.8%	1.013
2018	3.9%	1.115	2.4%	1.061	1.9%	1.060	2.8%	1.041
2019	3.9%	1.158	2.0%	1.082	2.0%	1.081	1.7%	1.058
2020	3.9%	1.203	0.5%	1.088	1.9%	1.101	1.4%	1.073
2021	3.9%	1.249	1.1%	1.100	2.0%	1.124	1.4%	1.088
2022	3.9%	1.298	1.9%	1.121	2.1%	1.147	1.4%	1.103
2023	3.9%	1.349	2.0%	1.143	2.2%	1.172	1.4%	1.119
2024	4.0%	1.402	1.4%	1.160	2.1%	1.197	1.3%	1.133
2025	4.0%	1.458	0.9%	1.170	2.1%	1.222	1.4%	1.148
2026	3.9%	1.515	0.8%	1.179	2.1%	1.247	1.7%	1.168
2027	3.9%	1.573	1.0%	1.191	2.1%	1.273	2.1%	1.192
2028	3.9%	1.634	1.2%	1.205	2.1%	1.299	2.2%	1.218
2029	3.8%	1.697	1.1%	1.218	2.1%	1.327	2.2%	1.245
2030	3.8%	1.763	1.0%	1.230	2.1%	1.355	2.1%	1.272
2031	3.9%	1.831	1.2%	1.244	2.2%	1.385	2.2%	1.300
2032	3.9%	1.902	0.9%	1.256	2.2%	1.416	2.1%	1.327
2033	3.9%	1.975	1.0%	1.269	2.2%	1.447	2.1%	1.354
2034	3.9%	2.052	1.1%	1.283	2.2%	1.480	2.0%	1.382
2035	3.9%	2.131	1.0%	1.296	2.2%	1.513	2.0%	1.409
2036	3.9%	2.214	1.0%	1.309	2.2%	1.546	1.9%	1.437
2037	3.9%	2.300	1.1%	1.323	2.2%	1.580	1.9%	1.465
2038	3.9%	2.390	1.1%	1.338	2.2%	1.616	1.9%	1.493
2039	3.9%	2.482	1.2%	1.354	2.3%	1.653	1.9%	1.522
2040	3.9%	2.579	1.2%	1.370	2.3%	1.690	1.9%	1.550
2041	3.9%	2.680	1.2%	1.386	2.3%	1.729	1.9%	1.580
2042	3.9%	2.784	1.2%	1.402	2.3%	1.769	1.9%	1.609
2043	3.9%	2.893	1.2%	1.418	2.3%	1.811	1.8%	1.639
2044	3.9%	3.005	1.2%	1.436	2.4%	1.853	1.8%	1.668
2045	3.9%	3.123	1.2%	1.453	2.4%	1.897	1.8%	1.698
2046	3.9%	3.244	1.2%	1.470	2.4%	1.942	1.8%	1.728
2047	3.9%	3.371	1.2%	1.487	2.4%	1.987	1.8%	1.759
2048	3.9%	3.502	1.2%	1.505	2.4%	2.034	1.8%	1.791
2049	3.9%	3.639	1.2%	1.523	2.4%	2.082	1.8%	1.822
2050	3.9%	3.780	1.2%	1.541	2.4%	2.131	1.8%	1.855
2051	3.9%	3.928	1.2%	1.559	2.4%	2.182	1.8%	1.888
2052	3.9%	4.081	1.2%	1.578	2.4%	2.233	1.8%	1.921
2053	3.9%	4.240	1.2%	1.596	2.4%	2.286	1.8%	1.956
2054	3.9%	4.405	1.2%	1.615	2.4%	2.340	1.8%	1.991
2055	3.9%	4.577	1.2%	1.634	2.4%	2.395	1.8%	2.026
2056	3.9%	4.755	1.2%	1.654	2.4%	2.451	1.8%	2.062
2057	3.9%	4.941	1.2%	1.673	2.4%	2.509	1.8%	2.099
2058	3.9%	5.133	1.2%	1.693	2.4%	2.568	1.8%	2.136
2059	3.9%	5.333	1.2%	1.713	2.4%	2.629	1.8%	2.174
2060	3.9%	5.541	1.2%	1.734	2.4%	2.691	1.8%	2.213
2061	3.9%	5.757	1.2%	1.754	2.4%	2.754	1.8%	2.252
2062	3.9%	5.982	1.2%	1.775	2.4%	2.819	1.8%	2.292
2063	3.9%	6.215	1.2%	1.796	2.4%	2.885	1.8%	2.333
2064	3.9%	6.457	1.2%	1.817	2.4%	2.953	1.8%	2.375
2065	3.9%	6.709	1.2%	1.839	2.4%	3.023	1.8%	2.417
2066	3.9%	6.970	1.2%	1.861	2.4%	3.094	1.8%	2.460
2067	3.9%	7.242	1.2%	1.883	2.4%	3.167	1.8%	2.504
2068	3.9%	7.524	1.2%	1.905	2.4%	3.242	1.8%	2.548
2069	3.9%	7.817	1.2%	1.928	2.4%	3.318	1.8%	2.594
2070	3.9%	8.122	1.2%	1.951	2.4%	3.397	1.8%	2.640
2071	3.9%	8.438	1.2%	1.974	2.4%	3.477	1.8%	2.687
2072	3.9%	8.767	1.2%	1.997	2.4%	3.559	1.8%	2.735
2073	3.9%	9.109	1.2%	2.021	2.4%	3.643	1.8%	2.783
2074	3.9%	9.464	1.2%	2.045	2.4%	3.728	1.8%	2.833
2075	3.9%	9.833	1.2%	2.069	2.4%	3.816	1.8%	2.883

Section 6

Annual Accrual Calculation

		Year		Future Cost			Difference		Annual Accrual					
Unit	Dismantlement Cost in 2016 Dollars	Economic Recovery Year	Recovery Period As of 1/1/2017	1st Yr Expense (Future $)	2nd Yr Expense (Future $)	Total Future $ Cost	Adj Reserve as of 12/31/2016	Amount To Accrue	2017	2018	2019	2020	4 Year Average	Monthly Accrual
Babcock Ranch Solar	$ 6,601,101	2046	29	$ 5,262,957	$ 12,665,743	$ 17,928,699	$ -	$ 17,928,699	$ 360,396	$ 373,396	$ 386,865	$ 400,819	$ 380,369	$ 31,697
Cape Canaveral														
Common	8,745,382	2053	36	8,471,328	20,390,528	28,861,856	-	28,861,856	417,775	432,125	446,968	462,321	439,797	36,650
Unit 5	7,122,444	2053	36	8,325,217	20,127,139	28,452,355	-	28,452,355	364,446	379,130	394,406	410,297	387,069	32,256
Cedar Bay	4,520,250	2016	0	N/A	N/A	4,520,250	-	4,520,250	4,520,250	-	-	-	1,130,063	94,172
Citrus Solar	6,601,101	2046	29	5,262,957	12,665,743	17,928,699	-	17,928,699	360,396	373,396	386,865	400,819	380,369	31,697
DeSoto Solar	2,338,490	2039	22	1,500,707	3,607,469	5,108,176	508,956	4,599,220	138,272	143,454	148,830	154,407	146,241	12,187
Ft. Myers														
Common	19,702,679	2043	26	14,212,629	34,168,013	48,380,642	12,436,940	35,943,702	857,612	889,513	920,527	953,695	905,087	75,424
Unit 2	9,039,546	2043	26	7,709,606	18,637,145	26,346,751	9,455,820	16,890,930	361,854	377,657	394,150	411,364	386,256	32,188
Unit 3	1,568,707	2043	26	1,316,721	3,181,505	4,498,227	1,574,379	2,923,847	63,290	66,008	68,842	71,799	67,485	5,624
Unit 4 (Combustion Turbine Peakers)	1,727,318	2056	39	2,250,160	5,441,700	7,691,861	-	7,691,861	84,991	88,395	91,934	95,616	90,234	7,520
Gas Turbines	297,386	2056	39	444,571	1,077,834	1,522,405	-	1,522,405	39,036	39,036	39,036	39,036	39,036	3,253
Lauderdale														
Common	19,099,027	2033	16	10,077,652	24,160,900	34,238,552	-	34,238,552	1,587,535	1,648,682	1,712,184	1,778,131	1,681,633	140,136
Unit 4	4,346,178	2033	16	2,517,540	6,060,811	8,578,351	5,147,011	3,431,340	150,290	157,145	164,313	171,807	160,889	13,407
Unit 5	4,340,750	2033	16	2,514,895	6,054,496	8,569,391	5,141,635	3,427,757	150,114	156,963	164,124	171,613	160,703	13,392
Unit 6 (Combustion Turbine Peakers)	4,226,112	2056	39	5,527,120	13,367,645	18,894,765	-	18,894,765	208,240	216,603	225,301	234,348	221,123	18,427
Gas Turbines	281,335	2056	39	425,975	1,032,975	1,458,950	-	1,458,950	37,409	37,409	37,409	37,409	37,409	3,117
Manatee														
Common	31,234,151	2028	11	14,981,184	35,949,956	50,931,140	23,226,652	27,704,488	1,974,543	2,068,556	2,167,045	2,270,223	2,120,092	176,674
Unit 1	10,574,637	2028	11	5,300,607	12,739,400	18,040,007	14,223,852	3,816,155	264,345	278,372	293,144	308,699	286,140	23,845
Unit 2	10,574,637	2028	11	5,300,607	12,739,400	18,040,007	14,149,025	3,890,982	269,528	283,831	298,892	314,752	291,751	24,313
Unit 3	6,732,122	2045	28	6,136,191	14,834,995	20,971,186	-	20,971,186	401,089	418,310	436,269	455,000	427,667	35,639
Manatee Solar	6,601,101	2046	29	5,262,957	12,665,743	17,928,699	-	17,928,699	360,396	373,396	386,865	400,819	380,369	31,697
Martin														
Common	46,459,059	2031	14	23,576,573	56,519,729	80,096,302	38,788,133	41,308,169	2,238,725	2,331,109	2,427,306	2,527,473	2,381,153	198,429
Unit 1	10,112,774	2031	14	5,638,035	13,572,452	19,210,487	13,937,020	5,273,467	269,541	282,950	297,027	311,804	290,331	24,194
Unit 2	10,112,774	2031	14	5,638,035	13,572,452	19,210,487	13,831,551	5,378,936	274,931	288,609	302,968	318,040	296,137	24,678
Unit 3	2,857,402	2034	17	1,821,139	4,396,872	6,218,011	3,575,356	2,642,655	102,656	107,744	113,085	118,690	110,544	9,212
Unit 4	2,864,092	2034	17	1,816,341	4,384,418	6,200,760	3,565,437	2,635,323	102,705	107,758	113,058	118,620	110,535	9,211
Unit 8	6,668,321	2045	28	6,142,075	14,853,650	20,995,725	-	20,995,725	398,738	416,039	434,090	452,924	425,448	35,454
Martin Solar	10,856,697	2045	28	8,418,601	20,254,288	28,672,889	2,105,831	26,567,058	563,305	583,712	604,859	626,771	594,662	49,555
Okeechobee														
Common	5,726,113	2059	40	7,350,626	17,733,616	25,084,242	-	25,084,242	-	-	275,078	285,599	140,169	11,681
Unit 1	6,641,891	2059	40	10,191,598	24,677,414	34,869,012	-	34,869,012	-	-	338,236	352,927	172,791	14,399
Port Everglades														
Common	6,426,572	2056	39	7,357,448	17,740,257	25,097,705	-	25,097,705	302,732	313,686	325,037	336,798	319,563	26,630
Unit 5	6,079,219	2056	39	8,436,248	20,426,563	28,862,811	-	28,862,811	305,594	318,400	331,742	345,644	325,345	27,112
Gas Turbines	1,935,975	2016	0	606,287	1,463,206	2,069,493	414,572	1,654,921	1,654,921	-	-	-	413,730	34,478
Riviera Beach														
Common	6,452,457	2054	37	6,387,524	15,374,395	21,761,919	-	21,761,919	302,482	312,770	323,408	334,407	318,267	26,522
Unit 5	7,051,684	2054	37	8,490,214	20,525,523	29,015,737	-	29,015,737	355,164	369,370	384,143	399,508	377,046	31,421

Section 6

Annual Accrual Calculation

		Year		Future Cost			Difference		Annual Accrual					
Unit	Dismantlement Cost in 2016 Dollars	Economic Recovery Year	Recovery Period As of 1/1/2017	1st Yr Expense (Future $)	2nd Yr Expense (Future $)	Total Future $ Cost	Adj Reserve as of 12/31/2016	Amount To Accrue	2017	2018	2019	2020	4 Year Average	Monthly Accrual
Sanford														
Common	10,290,606	2043	26	7,335,246	17,628,696	24,963,942	8,737,380	16,226,562	389,795	403,650	417,998	432,856	411,075	34,256
Unit 4	6,424,194	2043	26	5,377,800	12,992,683	18,370,483	3,746,638	14,623,845	317,202	330,778	344,935	359,698	338,153	28,179
Unit 5	6,397,182	2042	25	5,173,325	12,497,151	17,670,475	6,626,428	11,044,047	254,293	265,254	276,687	288,614	271,212	22,601
Scherer														
Common	33,972,828	2039	22	23,527,858	56,669,814	80,197,672	21,556,477	58,641,196	1,693,362	1,762,715	1,834,908	1,910,058	1,800,261	150,022
Unit 4	15,403,424	2039	22	10,147,893	24,416,491	34,564,384	19,090,984	15,473,400	458,138	475,913	494,377	513,558	485,497	40,458
Handling	1,028,362	2039	22	674,769	1,623,251	2,298,020	1,286,891	1,011,129	30,017	31,175	32,377	33,626	31,799	2,650
Space Coast Solar	886,054	2040	23	588,530	1,415,181	2,003,712	235,872	1,767,840	49,833	51,697	53,630	55,636	52,699	4,392
St. Johns River														
Common	14,532,336	2038	21	9,726,004	23,422,867	33,148,871	11,109,095	22,039,776	680,071	708,117	737,320	767,726	723,308	60,276
Unit 1	3,258,795	2038	21	2,158,169	5,197,933	7,356,102	4,327,119	3,028,983	93,690	97,533	101,534	105,699	99,614	8,301
Unit 2	3,258,795	2038	21	2,158,169	5,197,933	7,356,102	4,266,539	3,089,563	95,564	99,484	103,565	107,813	101,607	8,467
Handling	1,137,429	2038	21	707,433	1,699,428	2,406,861	1,395,979	1,010,882	32,537	33,754	35,016	36,325	34,408	2,867
Turkey Point														
Common	14,068,274	2047	30	11,281,647	27,127,771	38,409,418	-	38,409,418	746,604	772,579	799,458	827,272	786,478	65,540
Unit 1	13,564,981	2047	30	12,249,225	29,549,294	41,798,519	-	41,798,519	770,814	800,087	830,472	862,010	815,846	67,987
Unit 2	7,384,545	2047	30	7,075,226	17,095,183	24,170,409	(15,923,728)	40,094,137	1,000,799	1,020,012	1,039,594	1,059,551	1,029,989	85,832
Unit 5	10,235,882	2047	30	10,081,384	24,376,939	34,458,323	-	34,458,323	587,906	612,967	639,097	666,341	626,578	52,215
West County														
Common	20,101,515	2051	34	17,518,230	42,112,881	59,631,111	-	59,631,111	973,764	1,006,025	1,039,355	1,073,790	1,023,234	85,269
Unit 1	6,576,917	2049	32	6,958,462	16,832,795	23,791,257	-	23,791,257	363,573	378,974	395,027	411,760	387,333	32,278
Unit 2	6,603,614	2049	32	6,985,176	16,897,326	23,882,502	-	23,882,502	365,022	380,481	396,595	413,391	388,872	32,406
Unit 3	6,631,175	2051	34	7,537,564	18,236,906	25,774,470	-	25,774,470	354,762	369,668	385,200	401,385	377,754	31,479
Grand Total	$ 478,276,387			$ 361,934,435	$ 872,054,499	$ 1,238,509,183	$ 228,537,844	$ 1,009,971,339	$ 29,101,052	$ 23,833,386	$ 25,391,149	$ 26,399,287	$ 26,181,218	$ 2,181,768

Section 7

Future Expenditures by Year

Future Dismantlement Expenditures by Year
(Per 2016 Dismantlement Study)

Year	Projected Dismantlement Expenditures
2017	$ 5,126,537
2018	1,463,206
2033	25,582,399
2034	61,428,755
2036	34,852,642
2037	83,664,634
2038	15,110,087
2039	39,913,688
2040	8,781,290
2043	14,749,774
2044	71,369,388
2045	86,905,556
2046	1,415,181
2047	5,173,325
2048	48,449,154
2049	86,608,041
2050	20,696,868
2051	65,731,803
2052	78,684,710
2053	98,149,187
2054	13,943,638
2055	33,730,121
2056	25,055,795
2057	60,349,787
2058	16,796,545
2059	55,395,405
2060	35,899,918
2061	24,441,522
2062	59,086,975
2064	17,542,224
2065	42,411,030
Grand Total	**$ 1,238,509,183**

Section 8

Dismantlement Cost Analysis Prepared by Burns & McDonnell

Fossil Dismantlement Study

Florida Power & Light Company

Fossil Dismantlement Study
Project No. 84400

Final
03/01/2016

Corrected
04/19/2016

Fossil Dismantlement Study

prepared for

Florida Power & Light Company
Fossil Dismantlement Study
Miami, Florida

Project No. 84400

Final
03/01/2016

Corrected
04/19/2016

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

March 1, 2016

Jon-Paul Zabala
Asset Recovery & Analysis
Florida Power & Light Company
700 Universe Boulevard, Juno Beach, FL 33408

Re: FPL Decommissioning Cost Study

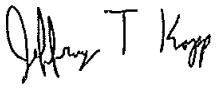
Dear Mr. Zabala,

Burns & McDonnell is pleased to present its report to Florida Power & Light Company (FPL) on the Decommissioning Cost Study (Study) for power generation assets in Florida and Georgia, excluding nuclear.

The objective of the Study was to review the facilities and to make a recommendation to FPL regarding the total cost in 2015 dollars to decommission the facilities at the end of their useful lives. The preparation of the cost estimates included in the Study were performed in accordance with Rule 25-6.04364, Electric Utilities Dismantlement Studies, Florida Administrative Code.

Burns & McDonnell appreciates the opportunity to provide our professional consulting services to FPL. Please feel free to contact me at any time to discuss questions that may arise during your review of the Study. You may reach me by phone at (816) 822- 4239 or via email at jkopp@burnsmcd.com. We look forward to working with you again on any future projects.

Respectfully Submitted,
BURNS & MCDONNELL



Jeff Kopp, PE
Project Manager

JTK/kps

TABLE OF CONTENTS

Page No.

LIST OF TABLES

Page No.

LIST OF FIGURES

Page No.

LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
Babcock Ranch Solar	Babcock Ranch Solar Energy Center
BMcD	Burns & McDonnell
C&D	Construction & Demolition
Citrus Solar	Citrus Solar Energy Center
Desoto Solar	DeSoto Next Generation Solar Energy Center
FPL	Florida Power & Light Company
GE	General Electric
HRSG	Heat recovery steam generator
kV	kilovolt
Manatee Solar	Manatee Solar Energy Center
MW	Megawatt
NO_x	Mono-nitrogen oxides
OCEC	Okeechobee Clean Energy Center
PCB	Polychlorinated Biphenyl
Plants	Fleet of gas, fuel oil, solar, and coal-fired generation facilities reviewed in this Study.
SCR	Selective catalytic reduction
Space Coast Solar	Space Coast Next Generation Solar Energy Center
Study	Fossil Dismantlement Study

1.0 EXECUTIVE SUMMARY

1.1 Introduction

Burns & McDonnell ("BMcD") was retained by Florida Power & Light ("FPL") to conduct a Decommissioning Cost Study ("Study") for power generation assets ("Plants") in Florida and Georgia, excluding nuclear units. The assets include natural gas, fuel oil, solar, and coal-fired generating facilities. Individuals from BMcD visited each of the existing Plants covered by the Study in May of 2015, along with a representative from Brandenburg, a demolition contractor who served as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to FPL regarding the total cost in 2015 dollars to decommission the facilities at the end of their useful lives. The preparation of the cost estimates included in the Study were performed in accordance with Rule 25-6.04364, Electric Utilities Dismantlement Studies, Florida Administrative Code.

The decommissioning costs were developed using the information provided by FPL, in-house data available to BMcD, and information supplied by Brandenburg. Quantity take-offs were performed for major plant facilities and equipment based on observations from the site visits and review of drawings provided for each Plant. Decommissioning activities were determined and labor hours were estimated to complete each decommissioning activity. Current market pricing for labor rates and unit pricing were then developed for each task, and these rates were applied to the estimated quantities for the Plants to determine the total cost of decommissioning.

1.2 Results

When FPL determines that the Plants should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a salvage contractor to offset a portion of the decommissioning costs. FPL will incur costs in the demolition and restoration of the sites less the salvage value of equipment and bulk steel. BMcD has prepared estimates in current year dollars (2015$) for the decommissioning of the Plants, as summarized in Table 1-1. Further breakdowns of these costs are presented in Table A-1 through Table A-18 in Appendix A. BMcD has also prepared annual costs for groundwater monitoring associated with closed ash ponds and/or landfills, as presented in Table 1-2. Note that the regulatory requirement for groundwater monitoring extends over a 30 year period following the closure.

Table 1-1: Decommissioning Cost Summary (2015$)[1]

Plant	Decommissioning Costs	Credits	Net Project Cost
Cape Canaveral	$20,031,993	($4,616,199)	**$15,415,794**
DeSoto Solar	$3,009,309	($735,431)	**$2,273,878**
Ft. Myers	$41,516,932	($10,119,993)	**$31,396,939**
Lauderdale	$39,299,982	($7,864,398)	**$31,435,584**
Manatee	$73,789,541	($16,363,554)	**$57,425,987**
Martin	$113,594,115	($26,204,511)	**$87,389,603**
Port Everglades	$21,261,928	($7,317,093)	**$13,944,835**
Riviera	$17,500,262	($4,387,026)	**$13,113,236**
St. Johns River[2]	$119,600,000	($11,470,000)	**$108,130,000**
Sanford	$31,444,119	($9,043,912)	**$22,400,207**
Scherer[2,3]	$205,554,000	($9,629,000)	**$195,925,000**
Space Coast Solar	$1,150,000	($289,000)	**$861,000**
Turkey Point	$64,616,729	($13,677,173)	**$50,939,556**
West County	$54,842,211	($16,156,521)	**$38,685,690**
Babcock Ranch Solar[4]	$8,569,000	($2,152,000)	**$6,417,000**
Citrus Solar[4]	$8,569,000	($2,152,000)	**$6,417,000**
Manatee Solar[4]	$8,569,000	($2,152,000)	**$6,417,000**
Okeechobee[4]	$17,515,000	($5,560,000)	**$11,955,000**

[1] Cost estimates were rounded to the nearest $1,000 and then site inventory costs and recoverable scrap for inventory was added to the rounded estimate resulting in the values shown.
[2] Costs for Scherer and St. Johns River have not been adjusted for FPL's ownership percentage.
[3] Scherer estimate includes only Unit 4 and all common facilities.
[4] Proposed facility.

Table 1-2: Annual Groundwater Monitoring Costs (2015$)

Plant	Annual Cost
St. Johns River	$175,000
Scherer	$1,175,300

Monitoring installation costs included in decommissioning costs.

The total project costs presented above include the costs to return the sites to an industrial condition suitable for reuse for development of an industrial facility. Included are the costs to dismantle the power generating equipment owned by FPL as well as the costs to dismantle the FPL-owned balance of plant facilities and environmental site restoration activities.

1.3 Statement of Limitations

In preparation of this decommissioning study, BMcD has relied upon information provided by FPL. BMcD acknowledges that it has requested the information from FPL that it deemed necessary to complete this study. While we have no reason to believe that the information provided to us, and upon which we have relied, is inaccurate or incomplete in any material respect, we have not independently verified such information and cannot guarantee its accuracy or completeness.

Engineer's estimates and projections of decommissioning costs are based on Engineer's experience, qualifications and judgment. Since Engineer has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction contractors' procedures and methods, and other factors, Engineer does not guarantee the accuracy of its estimates and projections.

Engineer's estimates do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as fuel tank ruptures, oil spills, etc. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.

2.0 INTRODUCTION

2.1 Background

Burns & McDonnell ("BMcD") was retained by Florida Power & Light ("FPL") to conduct a Decommissioning Cost Study ("Study") for power generation assets ("Plants") in Florida and Georgia, excluding nuclear units. The assets include natural gas, fuel oil, solar, and coal-fired generating facilities. Individuals from BMcD visited each of the existing Plants covered by the Study in May of 2015, along with a representative from Brandenburg, a demolition contractor who served as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to FPL regarding the total cost in 2015 dollars to decommission the facilities at the end of their useful lives.

2.2 Study Methodology

The site decommissioning costs were developed using information provided by FPL, information developed by Brandenburg, and in-house data BMcD has collected from previous project experience. BMcD estimated quantities for equipment based on a visual inspection of the facilities, review of engineering drawings, BMcD's in house database of plant equipment quantities, and BMcD's professional judgment. This resulted in an estimate of quantities for the tasks required to be performed for each decommissioning effort. Current market pricing for labor rates, equipment, scrap materials, and unit pricing were then developed for each task. These pricing inputs were developed for each site based on 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 for each site.

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 all of the assets owned by FPL at the site, including power generating equipment and balance of plant facilities along with environmental site restoration activities.

2.3 Site Visits

Representatives from BMcD and Brandenburg visited the sites. The site visits consisted of a tour of each facility with plant personnel to review the equipment installed at each site.

Mr. Jon-Paul Zabala, served as the FPL representative throughout the site visits, along with plant personnel at each of the sites.

The following BMcD and Brandenburg representatives comprised the site visit team:

- Mr. Jeff Kopp, BMcD, Project Manager
- Mr. Kory Sandven, BMcD, Project Engineer
- Mr. Parker Hills, BMcD, Project Engineer
- Mr. Andy Debrowski, Brandenburg, Demolition Contractor Representative

The site visits were performed on the following dates.

Table 2-1: Site Visit Dates

Plant	Site Visit Date
Martin	14-May-15
DeSoto Solar	20-May-15
Ft. Myers	20-May-15
Riviera Beach	21-May-15
West County	21-May-15
Scherer	26-May-15
St. Johns River	27-May-15
Cape Canaveral	27-May-15
Sanford	28-May-15
Manatee	28-May-15
Turkey Point	29-May-15
Lauderdale	29-May-15
Port Everglades	29-May-15

Figure 2-1: FPL Facilities Visited

3.0 EXISTING PLANT DESCRIPTIONS

The fiollowing are plant descriptions for each of the existing power plants included in this Study.

3.1 Cape Canaveral

The Cape Canaveral plant is located in Cape Canaveral, Florida. Originally, the facility consisted of two (2) natural gas fired boilers, however, those units were fully demolished and removed from the site and replaced with a single 3-on-1 combined cycle unit (Unit 1). Unit 1 consists of three Siemens 8000H combustion turbines, three heat recovery steam generators ("HRSGs"), and one steam turbine. The total capacity is 1,210 megawatts ("MW") at the summer peak rating. Additionally, this unit includes a selective catalytic reduction ("SCR") for reducing mono-nitrogen oxides ("NO_x") emissions. The facility also includes a man-made cooling water intake and discharge canal which has a manatee heating station.

3.2 DeSoto Next Generation Solar Energy Center

The DeSoto Next Generation Solar Energy Center ("Desoto Solar") is a photovoltaic solar power facility located approximately 30 miles northeast of Port Charlotte, in Arcadia, Florida. The facility currently includes approximately 90,504 single axis tracking SunPower solar panels with a total plant capacity of 25 MW at the summer peak rating.

3.3 Fort Myers

The Fort Myers plant is located along the Caloosahatchee River approximately 7 miles northeast of downtown Fort Myers, Florida. The facility includes a single 6-on-2 combined cycle unit (Unit 2) which incorporates six General Electric ("GE") 7FA combustion turbines, six Foster Wheeler HRSGs, and two steam turbines with a capacity of 1,470 MW at the summer peak rating. The facility also includes 2 simple cycle GE 7FA combustion turbines (Units 3A and 3B) with a combined capacity of 314 MW at the summer peak rating and 12 small simple cycle combustion turbines. By the end of 2016, 10 of the 12 simple-cycle combustion turbines will be retired. Water for the facility's condensing cooling system is provided via Caloosahatchee River with water discharge from the cooling towers to a man-made canal that discharges to the Orange River.

3.4 Lauderdale

The Lauderdale plant is located in Fort Lauderdale, Florida. Originally, the facility included two conventional boiler steam units and associated steam turbines that were repowered in the mid 1990's to combined cycle units (Units 4 and 5). The repowered combined cycle units can each be fired with either natural gas or fuel oil and each include two Westinghouse 501F combustion turbines, two HRSGs, and

one steam turbine. These two combined cycle units have a combined capacity of 884 MW or 442 MW each at the peak summer rating. Unlike many of the other FPL combined cycle units, the combustion turbines and generators are completely enclosed within a building. In addition to the combined cycle units, the facility has 24 simple-cycle combustion turbines. By the end of 2016, 22 of the 24 simple-cycle combustion turbines will be retired. The brackish water used in the facility's condensing cooling system is provided by the Dania Cut-Off Canal and discharged into a man-made canal to the South Fork New River.

3.5 Manatee

The Manatee plant is located within Manatee County, approximately 5 miles east of Parrish, Florida. The facility includes two fuel oil-fired boilers (Unit 1 and Unit 2), rated at approximately 809 MW each at the summer peak rating, and a 4-on-1 combined cycle unit (Unit 3) which includes four GE 7FA combustion turbines, four HRSGs, and one steam turbine with a combined capacity of 1,140 MW at the summer peak rating. In its entirety, the plant is rated to produce over 2,700 MW. The facility also includes a cooling pond to the east of the generation units which encompasses approximately 3,700 acres. Fuel oil is provided to the facility via a fuel oil pipeline that interconnects with offsite fuel oil storage tanks located at the port in Manatee County, approximately 20 miles away.

3.6 Martin

The Martin plant is located within Martin County, along the northeastern side of Lake Okeechobee and approximately 4 miles west of Indiantown, Florida. The facility includes two fuel oil-fired boilers (Unit 1 and Unit 2), with a combined capacity of 1,626 MW at the summer peak rating. The plant also includes two 2-on-1 combined cycle units (Unit 3 and Unit 4) which consist of two GE 7FA combustion turbines, two HRSGs, and one steam turbine with a combined capacity of 469 MW at the summer peak rating for each of these units. The facility also features an integrated solar thermal station which integrates solar thermal energy with Unit 8, a 4-on-1 combined cycle unit. The solar unit is capable of supporting up to 75 MW worth of steam, the equivalent of excess steam produced by duct firing the HRSGs on Unit 8. Although the solar thermal station supports Unit 8, the HRSGs for this unit are capable of providing rated capacity of the steam turbine without the aid of the solar station. In its entirety, the plant is rated to produce over 3,500 MW. The facility also includes a cooling pond to the east of the generation units which encompasses approximately 6,500 acres.

3.7 Port Everglades

The Port Everglades plant is located within the boundaries of the Port Everglades port, in the City of Fort Lauderdale, Florida. Similar to the Cape Canaveral plant, originally the Port Everglades plant consisted

of two (2) natural gas fired boilers, however, those units were fully demolished and removed from the site and replaced with a single 3-on-1 combined cycle unit (Unit 5). Unit 5 consists of three Siemens 8000H combustion turbines, three heat recovery steam generators ("HRSGs"), and one steam turbine. The total capacity is 1,237 MW at the summer peak rating. Additionally, this unit includes an SCR for reducing NO_x emissions. The Port Everglades plant also includes 12 small simple cycle combustion turbines, all of which will be retired by the end of 2016.

3.8 Riviera

The Riviera plant is located on approximately 22 acres of land in Palm Beach County, approximately 10 miles north of the city of West Palm Beach, Florida. Similar to the Cape Canaveral and Port Everglades plants, originally the Riviera plant consisted of two (2) natural gas fired boilers, however, it was recently reconstructed as a single 3-on-1 combined cycle unit (Unit 5). Unit 5 consists of three Siemens 8000H combustion turbines, three HRSGs, and one steam turbine. The total capacity is 1,237 MW at the summer peak rating. Additionally, this unit includes an SCR for reducing NO_x emissions.

3.9 St. Johns River Power Park

The St. Johns River Power Park Plant is located in northeast area of Jacksonville, Florida. This facility is jointly owned between Jacksonville Electric Authority and FPL with ownership percentages of 80 and 20 percent, respectively. The facility includes two coal-fired steam turbine units (Units 1 and 2) with a combined capacity of 1,270 MW at the summer peak rating. The coal handling system for the facility includes a rotary rail car dumper equipped with a static weight scale, a train positioner, a receiving bin, four short belt feeders, a cross conveyor, two elevating conveyors, and two magnetic separators. In addition, the plant includes a coal unloading facility on Blount Island for coal delivered by barge, along with a system of coal conveyers from Blount Island to the plant. For cooling, the facility includes two hyperbolic natural draft cooling towers which are located in the northeast boundary of the site.

3.10 Sanford

The Sanford plant is located on approximately 1,718 acres of land in Volusia County, approximately 2.5 miles south of DeBary, Florida. Originally, the facility included two conventional boiler steam units which were repowered in the mid 1990's to two 4-on-1 combined cycle units (Units 4 and 5). During the retrofit process, the boilers and associated equipment were removed, however, the steam turbines remained and are currently used in combined cycle mode. Each combined cycle unit operates using natural gas as the primary fuel supply and includes four GE 7FA combustion turbines, four HRSGs, and one steam turbine. These two units have a combined capacity of 2,010 MW or 1,005 MW each at the

summer peak rating. Additionally, the site includes a 1,100 acre cooling pond to the north of the generation units which is connected via a 4,500 foot canal.

3.11 Scherer

The Scherer Steam Plant is located approximately 17 miles north of Macon, Georgia and includes four (4) coal-fired steam turbine units. The facility is jointly owned between Georgia Power Corporation, Jacksonville Electric Authority and FPL, with FPL having 76.36 percent ownership Unit 4 only. Unit 4 has a capacity of 990 MW at the summer peak rating and consists of a boiler, steam turbine generator, condenser, electrostatic precipitator, flue gas desulfurization unit, SCR, baghouse, one 530-foot tall natural draft-cooling tower, and a shared stack with Unit 3. Common facilities evaluated as part of this Study consist of the power house, the recycle pond, stormwater ponds, settling ponds, ash pond, ash settling landfill, coal storage yard, and limestone storage area.

3.12 Space Coast Next Generation Solar Energy Center

The Space Coast Next Generation Solar Energy Center ("Space Coast Solar") is a photovoltaic solar power facility located at the Kennedy Space Center in Cape Canaveral, Florida. The facility includes 35,000 single axis tracking SunPower solar panels with a total plant capacity of 10 MW at the summer peak rating. The Space Coast Solar facility uses the same panels as the Desoto Solar Center.

3.13 Turkey Point

The Turkey Point plant is located on the western coast of Biscayne Bay approximately 15 miles south of Miami, Florida. The facility includes two natural gas-fired boiler steam units (Units 1 and 2), two nuclear generating units (Units 3 and 4), and a 4-on-1 combined cycle unit (Unit 5). For the purpose of this study, the nuclear generating units and associated common facility equipment are excluded from the decommissioning estimates. Units 1 and 2 were originally designed with the plan for future conversion to burn coal, however, this conversion was never made. Unit 2 has been converted to a synchronous condenser and Unit 1 will be converted to a synchronous condenser in 2016. Unit 5 is a combined cycle unit which includes four 170-MW GE "F" Class combustion turbines with dry low NO_x combustors, four HRSGs, and one steam turbine with a combined capacity of 1,187 MW at the summer peak rating. The facility's condensing cooling system includes intake from the Biscayne Bay and discharges to a man-made series of canals that are associated with the nuclear unit. For purposes of this Study, the canal system was excluded from the decommissioning estimates, since it is a nuclear generation asset.

3.14 West County

The West County Energy Center is located approximately 15 miles west of West Palm Beach, in Palm Beach County, Florida. The facility includes three 3-on-1 combined cycle units, each configured with three Mitsubishi 501G1 combustion turbines, 3 Nooter Eriksen HRSGs, and one steam turbine with a combined capacity of 3,657 MW at the summer peak rating for the entire facility. Additionally, each unit has an SCR for reducing NO_x emissions. Each combined cycle unit includes a dedicated mechanical draft cooling tower.

4.0 PROPOSED PLANTS DESCRIPTIONS

FPL currently has several generation facilities under development which are anticipated to have a commercial operation date between 2016 and mid-2019 that were included for evaluation in the Study. Because these facilities are still in the development stage, as-built drawings of these facilities were unavailable. Instead, the decommissioning costs for these plants were estimated based on BMcD's experience with demolition of facilities similar to those proposed.

Following are plant descriptions for each of the proposed power plants included in this Study.

4.1 Babcock Ranch Solar Energy Center

The Babcock Ranch Solar Energy Center ("Babcock Ranch Solar") is proposed to be built by the end of 2016 as a photovoltaic solar power facility located near Babcock, Florida, with a proposed capacity of 74.5 MW at the summer peak rating and a facility size of approximately 440 acres. The facility is proposed to include approximately 229,000 panels in conjunction with 40 GE 2 MVA inverters and one 85 MVA step-up transformer.

4.2 Citrus Solar Energy Center

The Citrus Solar Energy Center ("Citrus Solar") is proposed to be built by the end of 2016 as a photovoltaic solar power facility located in DeSoto County, Florida, with a proposed nameplate capacity of 74.5 MW and a facility size of approximately 841 acres. The facility is proposed to include approximately 229,000 Hanwha 325 W panels in conjunction with 40 GE 2 MVA inverters and one 85 MVA step-up transformer.

4.3 Fort Myers

It is anticipated that by the end of 2016, the Fort Myers plant will replace 10 of the 12 simple-cycle combustion turbines with two GE 7FA.05 combustion turbines, each rated for 231 MW. For purposes of this Study, decommissioning estimates have been prepared based on the configuration of the plant after this replacement project occurs.

4.4 Lauderdale

It is anticipated that by the end of 2016, the Lauderdale plant will replace 22 of the 24 simple-cycle combustion turbines with five GE 7FA.05 combustion turbines, each rated for 231 MW. For purposes of this Study, decommissioning estimates have been prepared based on the configuration of the plant after this replacement project occurs.

4.5 Manatee Solar Energy Center

The Manatee Solar Energy Center ("Manatee Solar") is proposed to be built by 2016 as a photovoltaic solar power facility located in Manatee County, Florida, with a proposed capacity of 74.5 MW at the summer peak rating and a facility size of approximately 762 acres. The facility is proposed to include approximately 229,000 panels in conjunction with 40 GE 2 MVA inverters and one 85 MVA step-up transformer.

4.6 Okeechobee Clean Energy Center

The Okeechobee Clean Energy Center ("OCEC") is proposed to be built prior to June 2019 and will be located in northeast Okeechobee County, Florida, approximately 24 miles west of Vero Beach and 27 miles north-northeast of Okeechobee on the border with Indian River County. The OCEC will include approximately 189 acres and utilize three "H" Class combustion turbines, three HRSGs, and a steam turbine. The plant will have an approximate generating capability of 1,633 MW at the summer peak rating.. Additionally, each HRSG will have an SCR for reducing NO_x emissions. For cooling, Unit 1 is anticipated to have a 30-cell mechanical draft cooling tower and basin located at the site. The facility will use equipment similar to that at the Riviera Plant.

5.0 DECOMMISSIONING COSTS

BMcD has prepared decommissioning cost estimates for the Plants. When FPL determines that each site should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a demolition contractor to offset a portion of the site decommissioning costs. However, FPL will incur costs of decommissioning of the Plants and restoration of the site to the extent that those costs exceed the salvage value of equipment and bulk steel.

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 dismantle all of the assets owned by FPL at the site, including power generating equipment and balance of plant facilities, as well as environmental site restoration activities.

For purposes of this study, BMcD has assumed that each site will be decommissioned as a single project, allowing the most cost effective demolition methods to be utilized. It is BMcD's understanding, based on information provided by FPL, that this methodology was used for demolition of the other FPL facilities that were fully retired. A summary of several of the means and methods that could be employed is summarized in the following paragraphs; however, means and methods will not be dictated to the contractor by BMcD. It will be the contractor's responsibility to determine means and methods that result in safely decommissioning the Plants at the lowest possible cost.

Asbestos remediation 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 vandalism, to increase cash flow, and for separation of recyclable materials, in order 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, combustion turbines, steam turbines, 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-contaminating 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 HRSGs 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.

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.

Balance of plant 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.

The Turkey Point plant would likely be demolished utilizing "ultra-high reach" excavators equipped with shears and a concrete processor, excavators, and skid steers, since it cannot be felled, due to the proximity of the adjacent nuclear unit.

5.1 General Assumptions for All Sites

The following assumptions were made as the basis of all of the cost estimates.

1. Pricing for all estimates are in 2015 dollars.
2. Scrap values are based on the American Metals Market Monthly Report for October 2015.
3. All work will take place in a safe and cost efficient method.
4. Labor costs are based on a regular 40 hour workweek without overtime.

5. Labor rates are based on RS Means values for a demolition crew B-8 with rates adjusted based on the site cost indexes for Florida and Georgia.
6. The estimates are inclusive of all costs necessary to properly dismantle and decommission all sites to a marketable or usable condition. For purposes of this study and the included cost estimates, the facilities will be restored to a condition suitable for industrial use.
7. All facilities 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.
8. It is assumed that all of the power stations will be dismantled after all units at a single site are taken out of service, allowing dismantlement of entire sites at once.
9. Soil testing and any other on-site testing has not been conducted for this study.
10. Transmission switchyards and substations within the boundaries of the plant are not part of the demolition scope. Switchyards that are associated with the facilities only and are not part of the transmission system are included for demolition. For purposes of this study, the division between generation assets and transmission assets is at the high side of the generator step-up transformers.
11. The costs for relocation of transmission lines, or other transmission assets, are specifically excluded from the decommissioning cost estimates. Any costs necessary to support on-going operations of adjacent or newly proposed units will be allocated to the operating costs of the units not being decommissioned.
12. Step-up transformers, auxiliary transformers, and spare transformers are included for demolition and scrap in all estimates.
13. Abatement of asbestos will precede any other work. After final air quality clearances have been obtained, demolition can proceed.
14. All demolition and abatement activities, including removal of asbestos, will be done in accordance with any and all applicable Federal, State and Local laws, rules and regulations.
15. Asbestos estimates were provided by FPL and escalated at 2.5 percent from 2014 to 2015 to represent 2015 year dollars unless noted otherwise in the site specific sections below.
16. FPL will remove or consume all burnable coal, fuel oil and chemicals prior to commencement of demolition activities.
17. Hazardous material abatement is included for all sites as necessary, including asbestos, mercury, and polychlorinated biphenyls (“PCBs”). Lead paint coated materials will be handled by certified personnel as necessary, but lead paint will not be removed prior to demolition.
18. Intake and discharge canals including any manatee heater equipment are assumed to remain at the site after demolition and thus have been excluded from decommissioning estimates.

19. No environmental costs have been included to address cleanup of contaminated soils, hazardous materials, or other conditions present on-site having a negative environmental impact, other than those specifically listed in these assumptions. No allowances are included for unforeseen environmental remediation activities.
20. Handling and disposal of hazardous material will be performed in compliance with the approved methods of FPL's Environmental Services Department.
21. Refractory brick on the coal fired boilers is handled and disposed of as hazardous waste, due to the likelihood of the presence of arsenic contamination.
22. Existing ash ponds will be pumped dry, filled with inert debris, capped with 40 mil geo-membrane, geo-net drainage layer, 24 inches of soil, and vegetated cover.
23. Stormwater ponds will be pumped dewatered, graded to drain to natural drainage patterns, and seeded.
24. Cooling lakes or ponds will remain as-is.
25. Site areas will be graded to achieve suitable site drainage to natural drainage patterns, but grading will be minimized to the extent possible.
26. All above grade structures will be demolished. All below grade structures, including foundations, will be removed to two (2) feet below grade. Additional structures and foundations greater than two (2) feet below grade will be abandoned in-place unless deemed hazardous by FPL or otherwise stated in the assumptions as being demolished.
27. Existing basements will be used to bury non-hazardous debris. Concrete in trenches and basements will be perforated to create drainage. Non-hazardous debris, such as concrete and brick, will be crushed and used as clean fill on-site once the capacity of all existing basements has been exceeded. All inert debris will be disposed of on-site. Costs for offsite disposal are included for materials not classified as inert debris.
28. Major equipment, structural steel, combustion turbines, generators, inlet filters, exhaust stacks, transformers, electrical equipment, cabling, wiring, pump skids, above ground piping, and equipment enclosures for the above equipment will be sold for scrap and removed from the Plant site by the demolition contractor. All other demolished materials are considered debris.
29. Except for the circulating water lines, underground piping will be abandoned in place. Circulating water system pipes will be capped, have the tops broken out, and backfilled with on-site soil.
30. Sewers, catch basins and ducts will be filled and sealed on the upstream side. Horizontal runs will be abandoned in place after being closed.

31. Costs are included to clean out the fuel oil tanks and lines. Costs have also been included to remove three (3) feet of soil directly below each of the fuel oil tanks to account for the potential for this soil to be contaminated during normal operations.
32. Disturbed site areas will be seeded or surfaced with crushed concrete after they are graded to provide a suitable ground cover to prevent soil erosion.
33. BMcD assumes that spare parts will be sold to the extent possible prior to decommissioning. Any remaining spare parts will be sold as scrap by the demolition contractor.
34. Rolling stock, including rail cars, dozers, plant vehicles, etc. is assumed to be removed by FPL prior to decommissioning.
35. Valuation and sale of land and all replacement generation costs are excluded from this scope.
36. 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 the decommissioning study. The decommissioning cost estimate is based on the end of useful life of each 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.
37. The scope of the costs included in this Study is limited to the decommissioning activities that will occur at the end of useful life of the facilities and groundwater monitoring activities associated with closure of ash ponds and landfills. Groundwater monitoring costs associated with the closed ash ponds and landfills are reported as the annual cost for one year, in 2015 dollars. These monitoring activities will be required for 30 years. Additional on-going costs may be required for maintenance of the site, depending on the condition of the site and ownership of the site. No additional ongoing costs have been included in the cost estimates provided in this Study.
38. Contingency is included in the cost estimate to cover expenses that are unknown at the time the estimate was prepared, but can reasonably be anticipated to be expended on the project. When preparing a cost estimate, there is always some uncertainty as to the precision of the quantities in the estimate, how work will be performed, and what work conditions will be like when the project is executed. Uncertainties are greater in a demolition project than in a construction project due to the nature of the drawings used for quantity takeoffs and the likelihood of encountering unknown conditions, such as hazardous materials, or environmental contamination. Other unknown conditions that could impact the costs include, but are not limited to, changing market conditions and weather delays. These uncertainties will impact the actual costs of the project relative to the estimated cost. The estimator is aware of these unknowns when preparing the cost estimate and includes contingency to cover these costs. A 20 percent contingency was included on the direct costs in the estimates prepared as part of this study to cover unknowns.

39. Indirect costs are included in the cost estimate to cover owner expenses such as management trailers, utilities, demolition oversight, and home office general and administrative costs. An indirect cost of 5 percent was included in the estimates to cover such costs.

Market conditions may result in cost variations at the time of contract execution.

5.2 Site Specific Decommissioning Assumptions

The following assumptions were made specific to each plant cost estimate.

5.2.1 Cape Canaveral

The following assumptions were made specific to the Cape Canaveral plant.

1. Intake and discharge canals including any manatee heater equipment are assumed to remain in place after demolition and have been excluded from the decommissioning estimate.
2. The laydown yard south of intake and discharge canals is assumed to be separate from the plant and is excluded from the demolition estimate.
3. Crushed concrete is assumed to be disposed of onsite and spread across the site.
4. The collector switchyard equipment, located west of the gas turbines, and the overhead transmission line from the onsite collector switchyard to the adjacent substation are included in the demolition estimate. The plant substation will remain in place and is not included in the decommissioning estimate.
5. The natural gas feeder station located north of the onsite switchyard is assumed to remain in place after demolition and has been excluded from the decommissioning estimate.
6. Cost estimate includes cost for importing topsoil, grading, and seeding the stormwater pond.

5.2.2 DeSoto Next Generation Solar Energy Center

The following assumptions were made specific to the DeSoto Next Generation Solar Center facility.

1. The cost estimate includes cost for grading, and seeding the site. No imported topsoil is assumed necessary for the solar facility due to the small footprint of the equipment foundations.

5.2.3 Space Coast Next Generation Solar Energy Center

The following assumptions were made specific to the Space Coast Solar Center facility.

1. The cost estimate includes cost for grading, and seeding the site. No imported topsoil is assumed necessary for the solar facility due to the small footprint of the equipment foundations.

5.2.4 Fort Myers

1. The property south of State Road 80 which is leased to the city for the manatee park is excluded from the decommissioning estimates.
2. The collector switchyard equipment immediately adjacent to the combustion turbines will be removed and all salvageable material will be scrapped including the overhead transmission lines to the plant substation. The plant substation and switchyard will remain and all access roads on the site that are specifically for the plant substation are not included in the decommissioning estimate.
3. The discharge canal located central to the plant site will remain and is excluded from the estimate.
4. Cooling water piping from intake and to discharge canals is assumed to be below two (2) feet and will be capped and left in place.
5. The estimate includes the proposed two (2) GE 7FA.05 combustion turbines in replacement of 10 of the existing simple-cycle combustion turbines, with two simple-cycle combustion turbines remaining at the site and included in the decommissioning estimate. For reference, the proposed GE 7FA.05 combustion turbines were classified as Unit 4.

5.2.5 Lauderdale

1. The discharge canal located north of the steam turbines site will remain and is excluded from the estimate.
2. The collector switchyard equipment immediately adjacent to the combustion turbines will be removed and all salvageable material will be scrapped including the overhead transmission lines to the plant substation. The plant substation and switchyard will remain in place and all access roads on the site that are specifically for the plant substation are not included in the decommissioning estimate.
3. The site includes a bridge to access the main entrance of the site. This bridge is assumed to remain after decommissioning of site and has been excluded from the decommissioning cost estimate.
4. The estimate includes the proposed five (5) GE 7FA.05 combustion turbines in replacement of 22 of the existing simple-cycle combustion turbines, with two simple-cycle combustion turbines remaining at site and included in decommissioning estimate. For reference, the proposed GE 7FA.05 combustion turbines were classified as Unit 6.

5.2.6 Manatee

1. The collector switchyard equipment immediately south of the combustion turbines will be removed and all salvageable material will be scrapped including the overhead transmission lines to the plant substation.
2. The plant substation and switchyard located south of the boilers will remain and all access roads on the site that are required for access to the plant substation are not included in the decommissioning estimate.
3. Units 1 and 2 have electrostatic precipitators for air quality controls which were included in the decommissioning estimate.
4. The cooling pond located northeast of site is assumed to remain after decommissioning of plant and all costs associated with pond have been excluded from the decommissioning estimate.
5. Condenser tube material for Units 1 and 2 are sea cure. Unit 3 condenser tube material is 316 stainless.
6. Fuel oil tanks at the nearby port are assumed to be separate from the plant and are excluded from the decommissioning estimate. The fuel pipeline from the port to the plant will be flushed, capped, and abandoned in place.
7. The soil contamination estimate was provided by FPL and performed by FPL's environmental team based on known contamination issues at the site. BMcD did not independently verify these estimates.

5.2.7 Martin

1. The site includes two substations, both of which are assumed to remain in place and are excluded from the decommissioning estimate.
2. The cooling pond located on the west side of the site is assumed to remain in place and all costs associated with the pond have been excluded from the decommissioning estimate.
3. Unit 8 includes a parabolic solar thermal facility. The parabolic troughs will be removed and disposed of in the onsite landfill. The structural framing for the parabolic troughs is made of aluminum and will be recycled, along with the steel columns that support the aluminum framing. The foundations below the columns will be removed to two (2) feet below grade.

5.2.8 Port Everglades

1. The Plant was under construction during the time of the Study. Estimates are based on the anticipated layout of the facility after construction is complete.

2. The two (2) plant substations and switchyards located south and southwest of the facility will remain and all access roads on the site that are required for access to the plant substations are not included in the decommissioning estimate.
3. The discharge canal is assumed to remain at site and was excluded from the decommissioning estimate.
4. The 12 CTs located north of Unit 5 are assumed to be removed, including foundation, equipment, and interconnection to plant substations.
5. The above ground piping at the natural gas metering area is included in the decommissioning estimate, however, all piping below ground is assumed to be two (2) feet below grade and is excluded from the estimate.

5.2.9 Riviera

1. The collector switchyard equipment immediately south of the combustion turbines will be removed and all salvageable material will be scrapped including the overhead transmission lines to the plant substation. The plant substation and switchyard located west of the combustion turbines will remain and all access roads on the site that are specifically for the plant substation are not included in the decommissioning estimate.

5.2.10 Sanford

1. The gazeebo and associated parking lot located in the southwest section of the site is assumed to remain and is excluded from the decommissioning estimate.
2. The collector switchyards immediately adjacent to the combustion turbines will be removed and all salvageable material will be scrapped including the overhead transmission lines to the plant substation. The plant substation will remain and all access roads on the site that are specifically for the plant substation are not included in the decommissioning estimate.
3. The plant includes two (2) condensate tanks within a containment area which were originally used for fuel oil storage. Soil remediation under these tanks is included.
4. The cooling pond and associated canal system are assumed to remain after decommissioning of plant and all costs associated with pond have been excluded from the decommissioning estimate.
5. The concrete separator between intake and discharge canal is assumed to remain in place and is excluded from decommissioning estimate.
6. The site includes ash landfills which were approved as closed prior to this Study. No costs are included in the current estimates for these landfills

5.2.11 Scherer

1. The decommissioning estimate includes the complete cost for demolition of Unit 4 and all common facilities. BMcD notes that FPL has percentage ownership of Unit 4 and common facilities; however, the costs presented in this Study are based on the full removal costs of each of these items, with no ownership percentages applied to these values. FPL will apply their ownership percentage to determine their portion of the cost obligations.
2. The plant substation will remain and all access roads on the site that are specifically for the plant substation are not included in the decommissioning estimate.
3. All railroad spurs from highway 87 to site are included in the decommissioning estimate. This includes the railroad tracks used for both limestone and coal transportation.
4. The coal pile area will have two (2) feet of soil excavated and replaced with clean fill, covered with imported topsoil, and seeded.
5. The powdered activated carbon ("PAC") and gypsum landfills located north of the Plant will be closed by rough grading of berms and sediment for cap base, importing material for cap base, installing geotextile over base soil, installing a 40-mil HDPE liner, installing geotextile on top of FML, importing and placing 24 inches of cover soil, grading cover soil, and hydroseeding.
6. The site includes an ash pond which will be closed by dewatering, rough grading of berms and sediment for cap base, importing material for cap base, installing geotextile over base soil, installing a 40-mil HDPE liner, installing geotextile on top of FML, importing and placing 24 inches of cover soil, grading cover soil, and hydroseeding.
7. The recycle pond will be closed by dewatering the pond, excavating ash residuals (estimated at 2 feet), transporting the residuals to the ash pond, removing the dam and transporting material the to the ash pond, grading the area, and hydroseeding.
8. The site includes a river pumping station located approximately five (5) miles southeast of the Plant and a water supply pipeline, which transports intake water from the river pumping station to the Plant. These pipes will be excavated to the top of pipe, have the tops broken out, and backfilled with soil.
9. Each unit includes a dedicated parabolic cooling tower.
10. There is a small and large dry stack, each of which is shared between two (2) units (i.e., Unit 4 shares stacks with Unit 3). Half of the costs associated with demolishing the Unit 3 and Unit 4 stacks has been included in the Unit 4 decommissioning costs.
11. The asbestos cost estimate was provided by FPL which included 20 percent for contingency and 5 percent for indirects in 2013 year-dollars. BMcD removed the contingency and indirects and then escalated value to represent 2015 year-dollars.

5.2.12 St. Johns River Power Park

1. BMcD notes that FPL has percentage ownership of the plant, however, the costs presented in this Study are based on the full removal costs for the plant, with no ownership percentages applied to these values. FPL will apply their ownership percentage to determine their portion of the cost obligations.
2. The plant substation will remain and all access roads on the site that are specifically for the plant substation are not included in the decommissioning estimate.
3. All railroad spurs surrounding the Plant are included for demolition up to the main railway located approximately 0.5 miles west of the Plant.
4. The coal pile area will have 2 feet of soil excavated and replaced with clean fill covered with imported topsoil, and seeded.
5. The limestone storage area located east of the boiler units will have 2 feet of soil excavated and replaced with clean fill, covered with imported topsoil, and seeded.
6. The site includes two (2) ash landfills which will be closed by rough grading of berms and sediment for cap base, importing material for cap base, installing geotextile over base soil, installing a 40-mil HDPE liner, installing geotextile on top of FML, importing and placing 24 inches of cover soil, grading cover soil, and hydroseeding.
7. The soil contamination estimate was provided by FPL and performed by FPL's environmental team based on known contamination issues at the site. BMcD did not independently verify these estimates.
8. North of the plant is the old city landfill that is assumed to be separate from the Plant. All costs associated with this landfill have been excluded from the decommissioning costs.
9. The site includes a telecommunication tower onsite which is not owned by the Plant. This tower is assumed to remain onsite after the decommissioning of the Plant.
10. The Plant includes an unloading dock located offsite. The coal is transported from the unloading dock to the Plant via a three (3) mile conveyor. The conveyor system is assumed to be removed at time of demolition, however, the unloading dock will remain in place, and was excluded from the decommissioning costs.

5.2.13 Turkey Point

1. Due to the proximity of the two nuclear units, this facility will require specialized dismantling to minimize vibrations which may impact the safety and operation of the nuclear facility. Since explosive blast to topple the boilers and stacks will not be allowed, the crew size was adjusted to

include two (2) additional iron workers and an upgraded crane to 90 ton load. This estimate was adjusted to account for selective equipment dismantlement methodology.

2. Unit 1 and 2 are natural gas-fired boiler units which burn low-sulfur fuel oil and have no air quality control equipment.
3. Several components of the two boiler units are shared with the nuclear units. The nuclear units were excluded from this decommissioning study and therefore, any components that are integrated were excluded from this study. Such components include:
   i) Discharge canal;
   ii) 6,500 acre cooling basin located south of Turkey Point;
   iii) Water treatment facility;
   iv) Project substation;
   v) All parking lots located south of Units 1 and 2;
   vi) Steam turbine crane track south of Unit 1 and 2 (crane is included); and
   vii) Boundary fence.
4. Decommissioning estimate includes a cost of $350,000 for the removal of the firewater protection surrounding the boiler units. This value was provided by FPL and was not independently evaluated by BMcD.
5. FPL has completed several studies regarding the method and cost for dismantling the stacks for Unit 1 and 2 in order to protect from impacting the nearby nuclear units. These studies include a vibrations study which evaluates the maximum size of sections which can be dropped off the stacks in order to be below the vibrations limit of the nuclear units. Based on the findings of the studies, and as described to BMcD by FPL, BMcD prepared an estimated cost for removing the stacks based on the removal process determined from these studies.

5.2.14 West County

1. The collector switchyard equipment adjacent to the combustion turbines will be removed and all salvageable material will be scrapped including the overhead transmission lines to the plant substation. The plant substation located north of the combustion turbines will remain and all access roads on the site that are specifically for the plant substation are not included in the decommissioning estimate.
2. Cooling water piping from the steam turbine to cooling towers is assumed to be below two (2) feet and will be capped and left in place at the steam turbine and at the cooling towers. All other cooling water piping will be removed and scrapped.

5.2.15 Babcock Ranch Solar Energy Center

The following assumptions were made specific to the Babcock Ranch Solar Energy Center facility.

2. The plant is currently in the development stage. Estimates were scaled based on the DeSoto Next Generation Solar Center facility.

5.2.16 Citrus Solar Energy Center

The following assumptions were made specific to the Citrus Solar Energy Center facility.

3. The plant is currently in the development stage. Estimates were scaled based on the DeSoto Next Generation Solar Center facility.

5.2.17 Manatee Solar Energy Center

The following assumptions were made specific to the Manatee Solar Energy Center facility.

4. The plant is currently in the development stage. Estimates were scaled based on the DeSoto Next Generation Solar Center facility.

5.2.18 Okeechobee

1. The plant is currently in the development stage. Estimates were based on a typical 3-on-1"H" Class combustion turbine combined cycle plant.

5.3 Results

Table 5-1 presents a summary of the decommissioning cost for each Plant. This summary provides a breakout of the major decommissioning activities and the scrap value for the Plant. Further breakdowns of these costs are presented in Table A-1 through Table A-18 in Appendix A. BMcD has also prepared annual costs for groundwater monitoring associated with closed ash ponds and/or landfills, as presented in Table 5-2. Note that the regulatory requirement for groundwater monitoring should be for a period of 30 years following the closure.

Table 5-1: Site Decommissioning Cost (2015$)[1]

Plant	Decommissioning Costs	Credits	Net Project Cost
Cape Canaveral	$20,031,993	($4,616,199)	**$15,415,794**
DeSoto Solar	$3,009,309	($735,431)	**$2,273,878**
Ft. Myers	$41,516,932	($10,119,993)	**$31,396,939**
Lauderdale	$39,299,982	($7,864,398)	**$31,435,584**
Manatee	$73,789,541	($16,363,554)	**$57,425,987**
Martin	$113,594,115	($26,204,511)	**$87,389,603**
Port Everglades	$21,261,928	($7,317,093)	**$13,944,835**
Riviera	$17,500,262	($4,387,026)	**$13,113,236**
St. Johns River[2]	$119,600,000	($11,470,000)	**$108,130,000**
Sanford	$31,444,119	($9,043,912)	**$22,400,207**
Scherer[2,3]	$205,554,000	($9,629,000)	**$195,925,000**
Space Coast Solar	$1,150,000	($289,000)	**$861,000**
Turkey Point	$64,616,729	($13,677,173)	**$50,939,556**
West County	$54,842,211	($16,156,521)	**$38,685,690**
Babcock Ranch Solar[4]	$8,569,000	($2,152,000)	**$6,417,000**
Citrus Solar[4]	$8,569,000	($2,152,000)	**$6,417,000**
Manatee Solar[4]	$8,569,000	($2,152,000)	**$6,417,000**
Okeechobee[4]	$17,515,000	($5,560,000)	**$11,955,000**

[1] Cost estimates were rounded to the nearest $1,000 and then site inventory costs and recoverable scrap for inventory was added to the rounded estimate resulting in the values shown.
[2] Costs for Scherer and St. Johns River have not been adjusted for FPL's ownership percentage.
[3] Scherer estimate includes only Unit 4 and all common facilities.
[4] Proposed facility.

Table 5-2: Annual Groundwater Monitoring Costs (2015$)

Plant	Annual Cost
St. Johns River	$175,000
Scherer	$1,175,300

Monitoring installation costs included in decommissioning costs.

6.0 LIMITATIONS

In preparation of this decommissioning study, BMcD has relied upon information provided by Florida Power & Light. BMcD acknowledges that it has requested the information from Florida Power & Light that it deemed necessary to complete this study. While we have no reason to believe that the information provided to us, and upon which we have relied, is inaccurate or incomplete in any material respect, we have not independently verified such information and cannot guarantee its accuracy or completeness.

Engineer's estimates and projections of decommissioning costs are based on Engineer's experience, qualifications and judgment. Since Engineer has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction contractors' procedures and methods, and other factors, Engineer does not guarantee the accuracy of its estimates and projections.

Engineer's estimates do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as fuel tank ruptures, oil spills, etc. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.