INFORMATION SHEET

PRESIDING: Commissioner Duffley; Chair Mitchell and Commissioners Brown-Bland, Gray, Clodfelter, Hughes and McKissick
PLACE: Via WebEx Videoconference
DATE: Wednesday, June 17, 2020
TIME: 1:52 p.m. – 5:21 p.m.
DOCKET NO.: E-2, Sub 1220
COMPANY: Williams Solar
DESCRIPTION: Williams Solar, LLC, Complainant, versus Duke Energy Progress, LLC, Respondent
VOLUME: 4

APPEARANCES
FOR WILLIAMS SOLAR, LLC:
Marcus Trathen, Esq.
Eric David, Esq.
Matthew Tynan, Esq.

FOR DUKE ENERGY PROGRESS, LLC:
Jack E. Jirak, Esq.
Brett Breitschwerdt, Esq.

WITNESSES
See attached

EXHIBITS
See attached

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PUBLIC COPIES: Trathen and Jirak
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REPORTED BY: Joann Bunze
DATE FILED: July 13, 2020

TRANSCRIPT PAGES: 131
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TOTAL: 188

PLACE: Via Videoconference

DATE: Thursday, June 18, 2020

TIME: 1:52 p.m. - 5:21 p.m.

DOCKET NO.: E-2, Sub 1220

BEFORE: Commissioner Kimberly W. Duffley, Presiding

Chair Charlotte A. Mitchell

Commissioner ToNola D. Brown-Bland

Commissioner Lyons Gray

Commissioner Daniel G. Clodfelter

Commissioner Jeffrey A. Hughes

Commissioner Floyd B. McKissick, Jr.

IN THE MATTER OF:

Williams Solar, LLC,

Complainant

versus

Duke Energy Progress, LLC,

Respondent

VOLUME: 4

A P P E A R A N C E S:

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TABLE OF CONTENTS

EXAMINATIONS

E X H I B I T S

Docket No. E-2, Sub 1220

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

"Data Input & Output" worksheet

Designer Inputs From Maximo "Project Estimation by Compatible Unit" Cost Report				
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**			
Maximo WO	21585565			
Overhead Costs (for Material & Labor)	$ 15,347.48			
Material	$ 13,587.05			
Labor (Install, Remove, and Transfer)	$ 35,332.47	$ 23,069.76	$ 12,262.71	
Vegetation Management (estimated by vegetation group/contractor)	$ 10,000.00			
Total Manhours	577.27	376.85	200.42	
Maximo Estimate (before Adders)	$ 64,267.00	61.22	61.19	

Calculator Outputs				
Adders - add to the estimate (choose appropriate CU for additional labor) If no CU - could add to Microsoft Excel CU Estimate file. Revising the Microsoft Excel file **does not update** the estimate in Maximo.				
Adder CU Name	**Estimated Value**			
CADD-TREE-TRIM-C (DEC) CADD-TREE-TRIM-P (DEP)	$ 10,000.00			
CADD-FLAGGING-C (DEC) CADD-FLAGGING-P (DEP)	$ 17,318.10	$ 30.00	577.27	
OADD-1DOLLAR-C (DEC) OADD-1DOLLAR-P (DEP)	$ 31,325.29			
Adder Sub-Total	$ 58,643.39			
Maximo Estimate (before adders)	$ 64,267.00			
Adders Overhead (estimated)	$ 21,698.05			
Maximo Total (should be close to this amount once all adders added)	**$ 144,608.44**			

Time & Equipment Basic Comparison to Maximo CU Estimate (Cells in Yellow need to be inputted by the Designer) The data below is simply for a Designer to use as comparison against Maximo data. The Calculator Outputs should place your estimate to a value that will incorporate this possible overrun below.	
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**
Maximo WO	21585565
Estimated Productive Manhours	577.27
Estimated Hours to Complete Work	577.27
Cost per Man Week	6,000.00
Number of Crew Members (assumes 5 per OH crew)	5.00
Number of Crews	1.00
Estimated weeks of work (calculated)	2.886350
Estimated loaded crew costs (with Duke overheads) could adjust based on alliance partnership - assumed $6,000 per man per week	$ 30,000.00
Estimated T&E Labor Costs	$ 86,590.50
Material Costs	$ 13,587.05
Material overhead (17%)	$ 2,309.80
Flagging Estimate	$ 17,318.10
Tree Trim Estimate	$ 10,000.00
Value of Estimate after correcting for T&E	$ 129,805.45
If Calculator Output is greater than T&E estimate should be okay to move forward.	**Greater**
IF cell F15 states **"less than"**, use the data below	
Difference between T&E and Maximo	$ (14,802.99)
If the calculator output above is labeled "less than", Designer may consider adding in additional Ohlabor money - estimated addition is shown to the right. This is on top of the OHLAB$ adder that is shown to the left.	$ -
If the calculator output above is labeled "greater", simply use the adder CU name on the left as shown.	

Time & Equipment Basic Comparison to Maximo CU Estimate (Cells in Yellow need to be inputted by the Designer) The data below is simply for a Designer to use as comparison against Maximo data. The Calculator Outputs should place your estimate to a value that will incorporate this possible overrun below.	
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**
Maximo WO	21585565
Estimated Productive Manhours	577.27
Estimated Hours to Complete Work	769.69
Cost per Man Week	6,000.00
Number of Crew Members (assumes 5 per OH crew)	5.00
Number of Crews	1.00
Estimated weeks of work (calculated)	4.000000
Estimated loaded crew costs (with Duke overheads) could adjust based on alliance partnership - assumed $6,000 per man per week	$ 30,000.00
Estimated T&E Labor Costs	$ 120,000.00
Material Costs	$ 13,587.05
Material overhead (17%)	$ 2,309.80
Flagging Estimate	$ 15,200.00
Tree Trim Estimate	$ 10,000.00
Value of Estimate after correcting for T&E	$ 161,096.85
If Calculator Output is greater than T&E estimate should be okay to move forward.	**Less Than**
IF cell F15 states **"less than"**, use the data below	
Difference between T&E and Maximo	$ 16,488.41
If the calculator output above is labeled "less than", Designer may consider adding in additional Ohlabor money - estimated addition is shown to the right. This is on top of the OHLAB$ adder that is shown to the left.	$ 16,488.41
If the calculator output above is labeled "greater", simply use the adder CU name on the left as shown.	

Assumptions:		
Hours in a Week	Productive Hours	Productivity Rate
40	30	75%
Contingency	Overhead Burdens	
25%	25%	

Flagger - # in a Crew	Flaggers - Average Hourly rate
3	$ 31.67

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

"Revision Notes" worksheet

Date	Revision By:	Revision Made	Reasons
4/20/2018	Jacqueline Coley	Simplified calculator by consolidating adders from 5 to 3	Request by Ed McLawhorn. WMIS never estimated indirect costs, Maximo does. Construction labor for OH is now all on T&E as opposed to units. However, Maximo is still estimating labor costs by construction units. The old calculator had adders named "Indirect, Contingency, Designer, ROW, Traffic Control, and Vegetation Management." The new calculator only shows adders, "OHlabor $ adder, Tree Trim, and Flagging." The OH Labor $ adder combines the Designer, ROW, & Contingency. The Indirect adder is accounted for in Maximo by the system calculated overhead. Simplifies data comparison against T&E conservative rate for OH work.
5/22/2018	Jacqueline Coley	Simplified T&E review	T&E was double counting adders, so simplified that maximo total on the left should be greater than the total of the T&E Labor estimate + materials + material overheads + flagging + tree trim.

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

“Est Template System Upgrade” worksheet

Assumptions
Enter Data in Yellow fields only:

Work Order Numbers	Maximo Labor Hours Estimated	Labor Expense Estimated	Labor Overhead Estimated	Material Costs Estimated	Materials Overhead Estimated	Service Cost Estimated	Service Cost O/H Estimated	Veg Mgt Expenses Estimated	Flagging Expenses Estimated	Adder Amount for Additional	Maximo Total Estimated Expenses	Flagging Yes / No
1	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	Yes
2	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
3	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
4	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
5	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
6	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
7	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
8	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
9	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
10	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
11	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
Total:	-	$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -	

Notes:

Time & Equipment Basic Comparison to Maximo CU Estimate	
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**
Maximo WO	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Estimated Productive Manhours	-
Estimated Hours to Complete Work	-
Cost per Man Week	3,180.00
Estimated weeks of work (calculated)	-
Labor Costs	$ -
Vehicle costs	$ -
Hotel	$ -
Per Diem	$ -
Estimated T&E Labor Costs	**$ -**
Material Costs	$ -
Material O/H (Mat Alloc 33.75% + Stores Loading 15%)	$ -
Flagging Estimate	$ -
Tree Trim Estimate	$ -
Adder Amount	$ -
Total Direct Costs	$ -
Contingency	$ -
Sub-Total before Burdens with Contingency	$ -
Overhead Burdens	$ -
T&E Estimate	$ -

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

"Est Template IC Facility" worksheet

Assumptions
Enter Data in Yellow fields only:

Work Order Numbers	Maximo Labor Hours Estimated	Labor Expense Estimated	Labor Overhead Estimated	Material Costs Estimated	Materials Overhead Estimated	Service Cost Estimated	Service Cost O/H Estimated	Veg Mgt Expenses Estimated	Flagging Expenses Estimated	Adder Amount for Additional	Maximo Total Estimated Expenses	Flagging Yes / No
1	-	$ -	$ -	$ -	$ -	$ -	$ -		$ -	$ -	$0.00	No
2	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
3	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
4	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
5	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
6	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
7	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
8	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
9	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
10	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
11	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
Total:	-	$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -	

Notes:

Time & Equipment Basic Comparison to Maximo CU Estimate	
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**
Maximo WO	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Estimated Productive Manhours	-
Estimated Hours to Complete Work	-
Cost per Man Week	3,180.00
Estimated weeks of work (calculated)	-
Labor Costs	$ -
Vehicle costs	$ -
Hotel	$ -
Per Diem	$ -
Estimated T&E Labor Costs	**$ -**
Material Costs	$ -
Material O/H (Mat Alloc 32.75% + Stores Loading 15%)	$ -
Flagging Estimate	$ -
Tree Trim Estimate	$ -
Metering Costs	$ -
Total Direct Costs	$ -
Contingency	$ -
Sub-Total before Burdens with Contingency	$ -
Overhead Burdens	$ -
T&E Estimate	$ -
If Calculator Output is greater than T&E estimate should be okay to move forward.	

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

"Email" worksheet

password [redacted]

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

"Total Est vs Actuals" worksheet

Engineer: - Preparer	

Approver:	
Aproval Date:	

Time & Equipment Basic Comparison to Maximo CU Estimate			
Data from Project Estimation By Compatible Unit Cost Report:	**Worksheet Calculation**	**MAXIMO ESTIMATE**	**VARIANCE**
Maximo WO			
Estimated Productive Manhours	-	-	0
Estimated Hours to Complete Work	-	-	-
Cost per Man Week	6,360.00		
Estimated weeks of work (calculated)	-	-	-
Labor Costs	$ -	$ -	-
Vehicle costs	$ -	$ -	-
Hotel	$ -	0	-
Per Diem	$ -	0	-
Estimated T&E Labor Costs	**$ -**	**$ -**	**$ -**
Material Costs	$ -	$ -	$ -
Material O/H (Mat Alloc 33.75% + Stores Loading 15%)	$ -	$ -	$ -
Flagging Estimate	$ -	$ -	$ -
Tree Trim Estimate	$ -	$ -	$ -
Environmental Cost Estimate	$ -	$ -	$ -
Adder Amount for Additional Estimated Costs	$ -	$ -	$ -
Total Direct Costs	**$ -**	**$ -**	**$ -**
Contingency	$ -	$ -	$ -
Sub-Total before Burdens with Contingency	**$ -**	**$ -**	**$ -**
Overhead Burdens	$ -	$ -	$ -
T&E Estimate	**$ -**	**$ -**	**$ -**

Engineer: - Preparer	

Approver:	
Aproval Date:	

Interconnection Facilities			
Description	**Worksheet Calculation**	**MAXIMO ESTIMATE**	**VARIANCE**
Estimated Productive Manhours	-		
Estimated Hours to Complete Work	-	-	-
Cost per Man Week	3,180.00		
Estimated weeks of work (calculated)	-		-
Labor Costs	$ -	$ -	-
Vehicle costs	$ -		-
Hotel	$ -		-
Per Diem	$ -		-
Estimated T&E Labor Costs	**$ -**	**$ -**	**$ -**
Material Costs	$ -	$ -	$ -
Material O/H (Mat Alloc 33.75% + Stores Loading 15%)	$ -	$ -	$ -
Flagging Estimate	$ -	$ -	$ -
Tree Trim Estimate	$ -	$ -	$ -
Adder Amount for Additional Estimated Costs	$ -		$ -
Total Direct Costs	**$ -**	**$ -**	**$ -**
Contingency	$ -		$ -
Sub-Total before Burdens with Contingency	**$ -**	**$ -**	**$ -**
Overhead Burdens	$ -	$ -	$ -
T&E Estimate	**$ -**	**$ -**	**$ -**

Engineer: - Preparer	

Approver:	
Aproval Date:	

System Upgrades			
Description	**Worksheet Calculation**	**MAXIMO ESTIMATE**	**VARIANCE**
Estimated Productive Manhours	-		
Estimated Hours to Complete Work	-	-	-
Cost per Man Week	3,180.00		
Estimated weeks of work (calculated)	-	-	-
Labor Costs	$ -	$ -	-
Vehicle costs	$ -		-
Hotel	$ -		-
Per Diem	$ -		-
Estimated T&E Labor Costs	**$ -**	**$ -**	**$ -**
Material Costs	$ -	$ -	$ -
Material O/H (Mat Alloc 33.75% + Stores Loading 15%)	$ -	$ -	$ -
Flagging Estimate	$ -	$ -	$ -
Tree Trim Estimate	$ -	$ -	$ -
Adder Amount for Additional Estimated Costs	$ -		$ -
Total Direct Costs	**$ -**	**$ -**	**$ -**
Contingency	$ -		$ -
Sub-Total before Burdens with Contingency	**$ -**	**$ -**	**$ -**
Overhead Burdens	$ -	$ -	$ -
T&E Estimate	**$ -**	**$ -**	**$ -**

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

“T and E Assumptions” worksheet

Assumptions:

Productive Hours per Day	Work Days per Week	Work Hours per Day	Productivity Rate
6	5	8	75%
Flaggers - Average Hourly rate - 10% Mark Up	Material Overhead Rate	Lodging	Per Diem
$ 38.38	48.75%	$ -	$ -

Overhead Burdens	Contingency	Productive Hours / Day	Inflation Adder
25%	20%	6	6%
Number of Crews	Linemen # in Crew	Flaggers # in Crew	Work Days in a week
1	4	1	5
Labor - Contractor Aver Hourly Rate	Vehicles - Contractor Aver Hourly Adder		
$ 75.00	$ 30.00		

Flagging Calculation
D12*D5*C5*b7

Contractor Labor Assumptions		
Guaranteed Hours in a Week	Productive Hours	Productivity Rate
60	30	50%

Drop Down Lists		
Yes	**DEC**	**NC**
No	**DEP**	**SC**

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

"Example" worksheet

Assumptions
Enter Data in Yellow fields only:

Work Order Numbers	Maximo Labor Hours Estimated	Labor Expense Estimated	Labor Overhead Estimated	Material Costs Estimated	Materials Overhead Estimated	Service Cost Estimated	Service Cost O/H Estimated	Veg Mgt Expenses Estimated	Flagging Expenses Estimated	Adder Amount for Additional	Maximo Total Estimated Expenses	Flagging Yes / No
Work Order Number: 32052898	3,133.07	$209,636.83	$86,370.37	$56,488.31	$10,450.34	$0.00	$0.00	$ -	$ -	$ -	$362,945.84	Yes
Remove Labor Adder from Estimate	(600.00)	$ (39,000.00)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	($39,000.00)	
Remove Flagging from Labor Total	(480.00)	$ (32,088.00)	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,088.00	$ -	$0.00	
Substation Estimate	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$0.00	
Additional Flagging	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$0.00	
6	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
7	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
8	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
9	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
10	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
11	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.00	
Total:	**2,053.07**	**$ 138,548.83**	**$ 86,370.37**	**$ 56,488.31**	**$ 10,450.34**			**$ -**	**$ 32,088.00**	**$ -**	**$ 323,945.84**	

Notes:

This is an example on how to remove the extra hours added to the Labor Hours so the estimated hours is only for the Maximo generated labor to complete the work.

Reccomendation is to not alter the row with the original work order so that these numbers always tie to the Maximo generated Work Orders. It will be easier to see what changes have been made to the system generated estimates if there are questions.

The Flagging that was included in the original Maximo estimate is removed from the total labor hours and Labor Expense Estimated, but then moved to the the Flagging Expense Column

If you would like to add additional expenses to the Estimate Template, use the cells in Column AD - Adder Amount.

Ex, if you would like to have additional flagging because the system does not add enough flagging in your opinion.

Or if you want to add in Substation work use this column.

Time & Equipment Basic Comparison to Maximo CU Estimate			
Data from Project Estimation By Compatible Unit Cost Report:	Value:		
Maximo WO	**Worksheet Calculation**	**MAXIMO ESTIMATE**	**VARIANCE**
Estimated Productive Manhours	2,053.07	2,053.07	
Estimated Hours to Complete Work	2,737.42	2,737.42	(442.58)
Cost per Man Week	3,180.00		
Estimated weeks of work (calculated)	18.00		
Labor Costs	$ 228,960.00	$ 138,548.83	(90,411.17)
Vehicle costs	$ 91,584.00		(91,584.00)
Hotel	$ -		-
Per Diem	$ -		-
Estimated T&E Labor Costs	**$ 320,544.00**	**$ 138,548.83**	**$ (181,995.17)**
Material Costs	$ 59,877.61	$ 56,488.31	$ (3,389.30)
Material O/H (Mat Alloc 33.75% + Stores Loading 15%)	$ 29,190.33	$ 10,450.34	$ (18,740.00)
Flagging Estimate	$ 27,632.00	$ 32,088.00	$ 4,456.00
Tree Trim Estimate	$ -	$ -	$ -
Adder Amount	$ -	$ -	$ -
Total Direct Costs	$ 437,243.94	**$ 237,575.47**	**$ (199,668.47)**
Contingency	$ 87,448.79		$ (87,448.79)
Sub-Total before Burdens with Contingency	$ 524,692.73	**$ 237,575.47**	**$ (287,117.26)**
Overhead Burdens	$ 108,906.20	$ 86,370.37	$ (22,535.82)
T&E Estimate	$ 633,598.93	**$ 323,945.84**	**$ (309,653.08)**

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

“Time and Expense” worksheet

Assumptions:			
Maximo Estimate Labor Hours	Contingency	Overhead Burdens	Productive Hours / Day
3,087.40	0%	37%	6
Number of Crews	Linemen # in Crew	Flaggers # in Crew	Work Days in a week
1	5	4	5
Inflation Adder	Labor - Contractor Aver Hourly Rate	Vehicles - Contractor Aver Hourly Adder	Vegetation Management
0%	$ 112.00	$ 40.00	$ -

Productive Hours per Day	Work Days per Week	Work Hours per Day	Productivity Rate
6	5	8	75%
Flaggers - Average Hourly rate - 10% Mark Up	Material Overhead Rate	Lodging	Per Diem
$ 38.38	17%	$ 125.00	$ 65.00

Contractor Labor Assumptions		
Guaranteed Hours in a Week	Productive Hours	Productivity Rate
60	30	50%

Time & Equipment Basic Comparison to Maximo CU Estimate	
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**
Maximo WO	21585565
Estimated Productive Manhours	3,087.40
Estimated Hours to Complete Work	4,116.53
Cost per Man Week	4,480.00
Estimated weeks of work (calculated)	21.00
Labor Costs	$ 470,400.00
Vehicle costs	$ 168,000.00
Hotel	$ 65,625.00
Per Diem	$ 34,125.00
Estimated T&E Labor Costs	$ 738,150.00
Material Costs	$ 194,000.00
Material overhead (17%)	$ 32,980.00
Flagging Estimate	$ 128,949.33
Tree Trim Estimate	$ -
Total Contractor Costs	$ 1,094,079.33
Contingency	$ -
Sub-Total before Burdens	$ 1,094,079.33
Overhead Burdens	$ 404,809.35
T&E Estimate	$ 1,498,888.69
If Calculator Output is greater than T&E estimate should be okay to move forward.	

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

“DET est vs DOT est” worksheet

Designer Inputs From Maximo	
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**
Maximo WO	21585565
Overhead Costs (for Material & Labor)	$ 15,347.48
Material	$ 13,587.05
Labor (Install, Remove, and Transfer)	$ 35,332.47
Vegetation Management (estimated by vegetation group/contractor)	$ 10,000.00
Total Manhours	577.27
Maximo Estimate (before Adders)	$ 64,267.00

Calculator Outputs	
Adders - add to the estimate (choose appropriate CU for additional labor) If no CU - could add to Microsoft Excel CU Estimate file. Revising the Microsoft Excel file **does not update** the estimate in Maximo.	
Adder CU Name	**Estimated Value**
CADD-TREE-TRIM-C (DEC) CADD-TREE-TRIM-P (DEP)	$ 10,000.00
CADD-FLAGGING-C (DEC) CADD-FLAGGING-P (DEP)	$ 17,318.10
OADD-1DOLLAR-C (DEC) OADD-1DOLLAR-P (DEP)	$ 31,325.29
Adder Sub-Total	$ 58,643.39
Maximo Estimate (before adders)	$ 64,267.00
Adders Overhead (estimated) - 37%	$ 21,698.05
Maximo Total (should be close to this amount once all adders added)	**$ 144,608.44**

DOT Template - Time & Equipment Basic Comparison to Maximo CU Estimate	
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**
Maximo WO	21585565
Estimated Productive Manhours	577.27
Estimated Hours to Complete Work	577.27
Cost per Man Week	6,000.00
Number of Crew Members (assumes 5 per OH crew)	5.00
Number of Crews	1.00
Estimated weeks of work (calculated)	2.886350
Estimated loaded crew costs (with Duke overheads) could adjust based on alliance partnership - assumed $6,000 per man per week	$ 30,000.00
Estimated T&E Labor Costs	$ 86,590.50
Material Costs	$ 13,587.05
Material overhead (17%)	$ 2,309.80
Flagging Estimate	$ 17,318.10
Tree Trim Estimate	$ 10,000.00
Value of Estimate after correcting for T&E	$ 129,805.45
If Calculator Output is greater than T&E estimate should be okay to move forward.	Less Than

If cell F15 states "less than", use the data below	
Difference between T&E and Maximo	$ 129,805.45
If the calculator output above is labeled "less than", Designer may consider adding in additional OHlabor money - estimated addition is shown to the right. This is on top of the OHLAB$ adder that is shown to the left.	$ 129,805.45
If the calculator output above is labeled "greater", simply use the adder CU name on the left as shown.	

DER Template - Time & Equipment Basic Comparison to Maximo CU Estimate			
Data from Project Estimation By Compatible Unit Cost Report:	**Value:**		
Maximo WO	21585565		
Estimated Productive Manhours	577.27		
Estimated Hours to Complete Work	769.69		
Cost per Man Week	1,400.00		
Number of Crew Members (assumes 5 per OH crew)	5.00		
Number of Crews	1.00		
Estimated weeks of work (calculated)	4.00		
Labor Costs	$ 28,000.00		
Vehicle costs	$ 8,000.00		
Hotel	$ 12,500.00		
Per Diem	$ 6,500.00		
Estimated T&E Labor Costs	$ 55,000.00		
Material Costs	$ 13,587.05		
Material overhead (17%)	$ 2,309.80		
Flagging Estimate	$ 24,561.78		
Tree Trim Estimate	$ 20,000.00		
Total Contractor Costs	$ 115,458.63		
Contingency	$ 28,864.66		
Sub-Total before Burdens	$ 144,323.28		
Overhead Burdens	$ 53,399.61		
T&E Estimate	$ 197,722.90	**Variance** $ 53,114.46	**Percentage** 37%
If Calculator Output is greater than T&E estimate should be okay to move forward.			

Assumptions:

Hours in a Week	Work Days in a week	Productive Hours	Productivity Rate
40	5	30	75%
Contingency	**Overhead Burdens**	**Linemen - Average Hourly rate**	**Vehicles - Hourly Adder**
25%	37%	$ 35.00	$ 10.00

Flagger - # in a Crew	Flaggers - Average Hourly rate - 10% Mark Up	Lodging	Per Diem
4	$ 38.38	$ 125.00	$ 65.00

Contractor Labor Assumptions

Paid Hours in a Week	Productive Hours	Productivity Rate
60	30	50%

		Straight Rate	Overtime Rate	Straight Wages	O/T Wages	Total Wages	40 Hour Work Week Rate			
								40	$ 1,680.99	per Week
									$ 42.02	
	Foreman - Working									
Labor		$ 18.92	$ 25.91	$ 756.80	$ 518.20	$ 1,275.00	$ 31.88			
	First Class Lineman / Lineman A									
Labor		$ 17.92	$ 24.55	$ 716.80	$ 491.00	$ 1,207.80	$ 30.20			
Labor	Second Class Lineman / Lineman B	$ 16.87	$ 23.11	$ 674.80	$ 462.20	$ 1,137.00	$ 28.43			
Labor	Third Class Lineman / Lineman C	$ 15.93	$ 21.99	$ 637.20	$ 439.80	$ 1,077.00	$ 26.93			
Labor	Fourth Class Lineman / Equipment Operator	$ 12.45	$ 17.43	$ 498.00	$ 348.60	$ 846.60	$ 21.17	$ 5,543.40	$ 27.72	Hourly Average Rate / 40 Hour Work Week
Vehicle	50-60' MH Bucket (2 WD)	$ 7.13	$ 7.13	$ 285.00	$ 142.50	$ 427.50	$ 10.69			
Vehicle	50-60' MH Bucket (4x4)	$ 7.68	$ 7.68	$ 307.00	$ 153.50	$ 460.50	$ 11.51			
Vehicle	Up to 20,000 lbs Digger Derrick (4X4)	$ 7.81	$ 7.81	$ 312.50	$ 156.25	$ 468.75	$ 11.72			
Vehicle	Pickup 3/4 Ton (4x4)	$ 2.88	$ 2.88	$ 115.00	$ 57.50	$ 172.50	$ 4.31	$ 1,529.25	$ 9.56	Hourly Average Rate / 40 Hour Work Week
Per Diem	Daily Rate	$ 65.00		$ 65.00	$ -	$ 65.00	$ 1.63	$ 65.00	$ 1.63	Hourly Average Rate / 40 Hour Work Week
Lodging	Daily Rate	$ 125.00		$ 125.00	$ -	$ 125.00	$ 3.13	$ 125.00	$ 3.13	Hourly Average Rate / 40 Hour Work Week
				$ -	$ -					

CEB Rebuttal Exhibit 1

Copy of Time and Expense Template.xlsx

“DEC Summary – Account Mgr” worksheet

DEC	NC
Interconnection Facilities **Item Description**	**Estimated Installed Cost**
Estimated Construction cost	$ 60,000.00
Estimated Metering cost	$ 35,000.00
Standard Metering Cost Credit	($306.21)
Subtotal of Estimated Interconnection Facilities	$ 94,693.79
Overhead costs (processing, technology, oversight, management)	$ 20,000.00
Estimated (Commissioning Costs Average = $15,000)	$15,000.00
Subtotal of Taxable costs	$ 129,693.79
Utility Sales Tax	$X,XXX.XX
Estimated Total Interconnection Costs. Pursuant to Article 6, Section 6.1, the actual costs for these upgrades are subject to the Final Accounting Report.	$AA,AAA.AA
Facilities Charges	**Estimated Monthly Charges**
Estimated Customer MFC (1.1% Monthly Facilities Charge) 7% NC Utility Sales Tax to be applied on invoice	$m,mmm.mm

Docket No. E-2, Sub 1220

CEB Rebuttal Exhibit 2

June 19, 2019 E-mail Re: [Redacted] – Revised Interconnection Agreement

[redacted] - Revised Interconnection Agreement - Message (HTML) (Read-Only)

File | Message | Acrobat | Litera | Tell me what you want to do...

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Move | Rules | Actions | Mark Unread | Categorize | Follow Up | Translate | Find | Related | Select | Zoom | Show/Hide EM Toolbar | Save Attachments | Where Filed | Properties

Delete | Respond | Move | Tags | Editing | Zoom | iManage

iManage E-Mail Management

Duke Energy Corp - STATE - SC Generator Interconnection (| File | Delete | Private | Save Attachments

Wed 6/19/2019 11:59 AM

James, Beckton

[redacted] - Revised Interconnection Agreement

To Bhagat, Neil

Neil,

Per our conversation, I recommend that the system upgrade estimate in the Interconnection Agreement for [redacted] be revised to $2,256,026.09 from $1,443,275.98.

The increase is due to:

- Complexity of Work
  - Reconductoring a line in the Transmission ROW that is already double circuited
    - Estimating tool estimates a standard single circuit being reconductored
- General Foreman expenses not included in original estimate
- Fleet / Equipment costs underestimated in original estimate
- Flagging estimate is low
- Contingency adder of 10% to cover potential risk from weather, work conditions and environmental work.
- Overhead burdens increased due to additional expenses

System Upgrades			
	Revised Estimate	MAXIMO ESTIMATE	Variance
Estimated Hours to Complete Work	11,868.59	13,010.82	1,142.23
Cost per Man Week	2,968.00		
Estimated weeks of work (calculated)	74.00	65.05	(8.95)
Labor Costs - Flagging Removed from Maximo Est	$ 878,528.00	$ 823,421.08	(55,106.92)
Vehicle costs	$ 376,512.00	$ -	(376,512.00)
General Foreman Adder - Not in Maximo Est	$ 87,852.80		(87,852.80)
	$ -		-

[redacted] - Revised Interconnection Agreement - Message (HTML) (Read-Only)

File | Message | Acrobat | Litera | Tell me what you want to do...

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Move | Rules | Actions | Mark Unread | Categorize | Follow Up | Translate | Find | Related | Select | Zoom | Show/Hide EM Toolbar | Save Attachments | Where Filed | Properties

Delete | Respond | Move | Tags | Editing | Zoom | iManage

iManage E-Mail Management

Duke Energy Corp - STATE - SC Generator Interconnection | File | Delete | Private | Save Attachments

Wed 6/19/2019 11:59 AM

James, Beckton

[redacted] - Revised Interconnection Agreement

To Bhagat, Neil

General Foreman Adder - Not in Maximo Est	$	87,852.80		(87,852.80)
	$	-		-
Estimated T&E Labor Costs	**$**	**1,255,040.00**	$ 823,421.08	(431,618.92)
Material Costs - 6% Inflation Mark-up for Revised Est	$	190,594.83	$ 179,806.44	$ (10,788.39)
Material O/H (Mat Alloc 33.75% + Stores Loading 15%)	$	92,914.98	$ 33,264.20	$ (59,650.78)
Flagging Estimate	$	102,196.44	$ 25,581.92	$ (76,614.52)
Tree Trim Estimate	$	-		$ -
Environmental Cost Estimate	$	-	$ -	$ -
Total Direct Costs	$	1,640,746.25	$ 1,062,073.64	$ (578,672.61)
Contingency - 10%	$	164,074.62	$ -	$ (164,074.62)
Sub-Total before Burdens with Contingency	$	1,804,820.87	$ 1,062,073.64	$ (742,747.23)
Overhead Burdens	$	451,205.22	$ 381,202.34	$ (70,002.88)
T&E Estimate	$	2,256,026.09	$ 1,443,275.98	$ (812,750.11)

Any questions, please let me know.

Regards,

Beckton James
DET – Senior Business & Technical Consultant
(980) 373-2896 – office
(919) 740-6597 – mobile

Williams Solar **Comparison of Base Interconnection Facilities and System Upgrade Estimates**			
SIS Estimate Delivered Jan. 28, 2019		**Facilities Study Estimate Delivered July 30, 2019**	
Interconnection Facilities	$60,000	Interconnection Facilities	$93,600.65
System Upgrades	$774,000	System Upgrades	$1,053,780.03
Total	$834,000	Total	$1,147,380
Total Base Estimate Percentage Increase: 37.6%			

Discrete Items Added in Facilities Study		
	Interconnection Facilities	**System Upgrades**
Contingency	$16,228.70	$170,320.01
Inflation	$6,589.76	$73,446.00
Metering Estimate	$24,791.30	
Administrative Overhead	$20,000.00	
Commissioning Estimate	$24,000.00	
Sales Tax	$11,284.73	$90,828.22
Discrete Items Total:	**$102,894.49**	**$334,594.23**

May 14, 2020

Legal Entity: 1035 Lee Landing Solar, LLC
Facility Name: Lee Landing Solar
Facility Address: 7634 NC Highway 55, New Bern, NC 28560
Size: 4032 KWAC
OPCO: Duke Energy Progress
Queue Number: NC2016-02822

Dear 1035 Lee Landing Solar, LLC,

This letter is to inform you that pursuant to North Carolina Interconnection Procedures (NCIP) Section 1.8.1, your Interconnection Request is now ready to enter the Section 4.3 System Impact Study (SIS) process as a Project B, upon execution of a SIS Agreement.

Attached to this document is your SIS Agreement. According to Sections 1.4.1.2 and 4.3.1 of the NCIP, to retain your queue position and proceed with the SIS process, it is necessary that you sign and return this SIS Agreement within **15 business days** of receiving this letter.

As a Project B, Duke Energy will complete SIS with a first scenario assuming the interdependent Project A will sign an Interconnection Agreement and proceed to construction and interconnection, and a second scenario assuming Project A is withdrawn and not constructed.

Scoping Meeting:
NCIP Section 4.2 contemplates a Scoping Meeting to be held in connection with the Interconnection Request. However, in the interest of efficiency, Duke Energy is providing below the information that would normally be provided to you during a Scoping Meeting. You may still request a Scoping Meeting, but such request will delay commencement of your project's SIS. If you would nevertheless prefer to have this meeting, please submit your request by emailing **DERContracts@duke-energy.com** within **10 business days** of receiving this letter. If you do not make this request in writing and return a signed SIS Agreement, Duke Energy will proceed with the Section 4.3 SIS Evaluation and your right to a Scoping Meeting under Section 4.2 shall be deemed waived.

The information below is an initial scoping evaluation relevant to the proposed Generating Facility and Point of Interconnection identified in the Interconnection Request and, as discussed above, provides the initial scoping information that would be identified during a Scoping Meeting:

Interdependency Designation: Substation B
Substation Name: Bayboro
Substation Voltage: 230 kV
Substation Capacity (MVA) : 24 MVA
Feeder Number: T4050B02

Feeder Nominal Voltage: 24kV
Confirm coordinates of customer POI to be studied: 35.134931, -76.894732
Other Projects on Substation: (includes projects in operation and active in the queue)

Queue Number	Size (MW)	Interdependency designation
NC2016-00046	4.998	Approved
NC2016-02787	5	Project A
NC2016-02822	4.032	Project B
Queue Number	Size (MW)	Interdependency designation

Impacted by existing voltage regulating devices between the proposed Point of Interconnection and the substation/area? Yes
Coordinates of LVR: 35.136470, -76.861266
Electrical distance between LVR and POI: 1.99 miles
Electrical distance between substation and POI: 5.57 miles
Distance from POI to 3Ø line: 0 miles
(The impact of planned voltage regulating devices will be determined and communicated during the System Impact Study process.)

System Impact Study Agreement:
If you elect to not request a Scoping Meeting, please complete the required fields of the SIS Agreement, sign and return this Agreement by **June 4, 2020,** to: **DERContracts@duke-energy.com**

Once a completed and signed Agreement is received, Duke Energy will countersign the agreement and send a fully executed copy back to you for your records.

Queue Status:
Due to the significant volume of interconnection requests that have applied for interconnection study under the NCIP, Duke Energy may experience delays in the study process. Duke Energy will use all reasonable efforts to process all Interconnection Customers' requests in Queue Position priority order and to meet the study timeframe identified in the enclosed SIS Agreement. For the most up-to-date information on the status of your Interconnection Request, the Company maintains a queue status report, which is updated bimonthly, at: https://www.duke-energy.com/business/products/renewables/generate-your-own/interconnection-queue.

Administrative Overhead Costs:
Attached for your record is a copy of the Administrative Overhead and Commissioning Costs table. Execution of the SISA confirms your acceptance of administrative charges associated with the processing of your interconnection project.

Questions:
We appreciate the opportunity to provide quality customer service to you. During the Study phase of the Interconnection Process, Customer Support has transitioned from the Renewable Service Center (RSC) to the Duke Energy Technology - Interconnection Customer Account Specialist (CAS) team. If you

have questions regarding the processing of your Interconnection Request, you may contact me or email **DERContracts@duke-energy.com**.

Sincerely,

Sheran Fogg
Customer Account Specialist
Duke Energy Progress

System Impact Study Agreement

THIS AGREEMENT ("Agreement") is made and entered into this ____ day of _____ by and between 1035 Lee Landing Solar, LLC, a Limited Liability Company organized and existing under the laws of the State of North Carolina, ("Interconnection Customer,") and Duke Energy Progress, a Limited Liability Company existing under the laws of the State of North Carolina, ("Utility"). The Interconnection Customer and the Utility each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request completed by the Interconnection Customer, 06/16/16, Dated and received by the Utility on 06/23/16; and

WHEREAS, the Interconnection Customer desires to interconnect the Generating Facility with the Utility's System; and

WHEREAS, the Interconnection Customer has requested the Utility to perform a system impact study to assess the impact of interconnecting the Generating Facility with the Utility's System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the North Carolina Interconnection Procedures.

2.0 The Interconnection Customer elects and the Utility shall cause to be performed a system impact study consistent with the North Carolina Interconnection Procedures.

3.0 The scope of the system impact study shall be subject to the assumptions set forth in Appendix A to this Agreement.

4.0 A system impact study will be based upon the technical information provided by Interconnection Customer in the Interconnection Request. The Utility reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the system impact study.

5.0 In performing the study, the Utility shall rely, to the extent reasonably practicable, on existing studies of recent vintage. The Interconnection Customer shall not be charged for such existing studies; however, the Interconnection Customer shall be responsible for charges associated with any new study or modifications to existing studies that are reasonably necessary to perform the feasibility study.

6.1 The System Impact Study Report shall provide the following analyses for the purpose of identifying any potential adverse system impacts that would result from the interconnection of the Generating Facility as proposed:

6.2 Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

6.3 Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;

6.4 Initial review of grounding requirements and electric system protection.

7.0 The System Impact Study shall model the impact of the Generating Facility regardless of purpose in order to avoid the further expense and interruption of operation for reexamination of feasibility and impacts if the Interconnection Customer later changes the purpose for which the Generating Facility is being installed.

8.0 The study shall include the feasibility of any interconnection at a proposed project site where there could be multiple potential Points of Interconnection, as requested by the Interconnection Customer and at the Interconnection Customer's cost.

9.0 A System Impact Study shall consist of a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, as necessary.

10.0 The System Impact Study will also include an analysis of distribution and transmission impacts as may be necessary to understand the impact of the proposed Generation Facility on electric system operation.

11.0 A System Impact Study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested interconnection service.

12.0 The System Impact Study will provide the Preliminary Estimated Upgrade Charge, which is a preliminary indication of the cost and length of time that would be necessary to correct any System problems identified in those analyses and implement the interconnection

13.0 The System Impact Study will provide the Preliminary Estimated Interconnection Facilities Charge, which is a preliminary indication of the cost and length of time that would be necessary to provide the Interconnection Facilities.

14.0 A system impact study shall provide the information outlined in Section 1.2.3 of the Interconnection Procedures.

15.0 A distribution System Impact Study shall incorporate a distribution load flow study, an analysis of equipment interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on electric system operation, as necessary.

16.0 Affected Systems may participate in the preparation of a System Impact Study, with a division of costs among such entities as they may agree. All Affected Systems shall be afforded an opportunity to review and comment upon a System Impact Study that covers potential adverse system impacts on their electric systems, and the Utility has 20 additional Business Days to complete a system impact study requiring review by Affected Systems.

17.0 The Utility shall have an additional 15 days from the time set forth in Section 19.0 the System Impact Study Agreement to complete the dual scenario System Impact Study reports for a Project B.

18.0 If the Utility uses a queuing procedure for sorting or prioritizing projects and their associated cost responsibilities for any required Network Upgrades, the System Impact Study shall consider all generating facilities (and with respect to paragraph 8.3 below, any identified Upgrades associated with such higher queued interconnection) that, on the date the system impact study is commenced –

18.1 Are directly interconnected with the Utility's electric system; or

18.2 Are interconnected with Affected Systems and may have an impact on the proposed interconnection; and

18.3 Have a pending lower queued Interconnection Request to interconnect with the Utility's electric system.

19.0 The System Impact Study shall be completed within a total of 65 Business Days if transmission system impacts are studied, and 50 Business Days if distribution system impacts are studied, but in any case, shall not take longer than a total of 65 Business Days unless the study involves Affected Systems per Section 16.0 or the studied Interconnection Request is a Project B per Section 17.0.

20.0 Any study fees shall be based on the Utility's actual costs and will be deducted from the Interconnection Facilities Deposit made by the Interconnection Customer at the time of the Interconnection Request. After the study is completed, the Utility shall deliver a summary of professional time.

21.0 The Interconnection Customer must pay any study costs that exceed the Interconnection Request Deposit without interest within 20 business days of receipt of the invoice. If the deposit exceeds the invoiced fees and the Interconnection Customer withdraws the Interconnection Request, the Utility shall refund such excess within 40 business days of the notification of termination without interest.

22.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of North Carolina, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

23.0 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

24.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

25.1 Waiver

25.2 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

25.3 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Utility. Any waiver of this Agreement shall, if requested, be provided in writing.

26.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

27.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

28.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

29.1 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

29.2 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Utility be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

29.3 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

30.1 Reservation of Rights

The Utility shall have the right to make a unilateral filing with the Commission to modify this Agreement with respect to any rates, terms and conditions, charges, or classifications of service, and the Interconnection Customer shall have the right to make a unilateral filing with the Commission to modify this Agreement; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before the Commission in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

Duke Energy Progress, LLC	**1035 Lee Landing Solar, LLC**
Signed_____	Signed _____
Name (Printed):	Name (Printed):
Jeffrey W. Riggins	
_____	_____
Title Director, DET Interconnection	Title _____

Please complete the following page.

Assumptions Used in Conducting the System Impact Study

The system impact study shall be based upon the Interconnection Request, subject to any modifications in accordance with the Interconnection Procedures, and the following assumptions:

1) Designation of Point of Interconnection and configuration to be studied.

2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and the Utility.

NC/SC DEC and DEP Administrative Overhead and Commissioning Costs - February 2019 - Non-Fast Track

Duke Energy is incorporating appropriate interconnection-related administrative overhead and commissioning costs into Interconnection Agreements and the Final Accounting True-Up of existing Interconnection Agreements. In summary, the appropriate pro-rata share of costs not already direct-charged or covered by fees includes, but is not limited to:

-- Costs to manage the interconnection application process
-- Non-direct charged Distribution or Transmission study-related costs
-- Duke Energy costs to support and manage the integration and construction of distributed generation projects
-- Software costs required to support the interconnection and on-going support of distributed generation projects
-- Commissioning costs (Currently applies to Distribution projects only)

This table is intended to cover most scenarios; however, Duke Energy reserves the right to address situations on a case by case basis.

Study-Related Costs Applied by Trigger	Trigger for Administrative Charges
$500	Interconnection Request Application Form & Study Deposit received, but project is withdrawn prior to Queue Number assignment
$2,500	Queue Number is assigned
$3,000	System Impact Study Agreement executed
$6,000	System Impact Study completed
$6,000	Facility Study completed
$18,000 Subtotal of Above	**Study-Related Costs represent total aggregate administrative costs plus actual direct-charged study costs**

Construction-Related Costs Applied	Trigger for Administrative Charges
$20,000	IA Executed and project with construction required begins
Construction-Related Cost is $20,000 Administrative plus actual direct-charged construction costs	

Commissioning-Related Costs Applied	Trigger for Charges
$24,000 Estimated Cost	Distribution connected projects only – interconnection inspection and commissioning testing required prior to facilities generating continuously at full output
Total study, construction and commissioning costs are matched against total payments received from the Customer with invoice or refund based on calculated difference	

Table illustrates that Administrative charges increase as a project moves through the stages of processing. True Up will occur following the final stage for each project.

- If project is withdrawn / cancelled during study, study-related administrative and direct-charged costs are matched against the study deposit received and an invoice or payment is issued for the difference.
- If project constructs & interconnects, total actual study costs are summed with total actual construction and commissioning costs and matched against total payments received. An invoice or payment will be issued for the difference. Estimated interconnection facilities costs to be paid monthly will also be adjusted up or down based on actual costs.
- Duke Energy DET began including construction-related administrative and estimated commissioning costs in Interconnection Agreement (IA) best-estimated costs starting July 1, 2018. Study costs are not included in the IA estimated costs.
- Administrative costs will be reviewed regularly and adjusted based on total costs to be recovered, volume of projects and scope of work.
- Sales tax will be added based on state taxation requirements.

DUKE ENERGY.

Duke Energy Progress
400 South Tryon
Mail Code ST14A
Charlotte, NC 28202

True Up Invoice for:

Glenfield Solar, LLC	**NC2016-02923**	**Invoice Date:**
c/o Green Go Energy - Jessica Robbins		**10/23/2019**
2610 Wycliff Road, Suite 410		**Invoice Number:**
Raleigh, NC 27607		**SOL-0000000313**

Facility Description:

4.99 MW AC	
1800 Glenfield Road	
Snow Hill	28580
NC	DEP

Study Summary			
Item Description	**Payments Received (A)**	**Actual Costs (B)**	
Study Deposit	$25,000.00		
Overhead Costs (processing, technology, oversight, management)			
Study Expenses		$242.50	

Study Deposit	**Actual Study Costs**	
$25,000.00	$242.50	

Total Invoice Amount			
Deposits	$25,000.00		
Overhead Costs (processing, technology, oversight, management)		$3,000.00	
Study / SI / IF Expenses		$242.50	

Total Deposits Received	**Total Costs**	**Refund Due Customer**
$25,000.00	$3,242.50	**($21,757.50)**

Refund Due by	**11/22/2019**	**($21,757.50)**