SOAH DOCKET NO. 473-19-3864
PUC DOCKET NO. 49421

APPLICATION OF CENTERPOINT	**§**	**BEFORE THE STATE OFFICE**
ENERGY HOUSTON ELECTRIC, LLC	**§**	**OF**
FOR AUTHORITY TO CHANGE RATES	**§**	**ADMINISTRATIVE HEARINGS**

May 28, 2019

Contact: Denise Hardcastle
CenterPoint Energy Houston Electric, LLC
1111 Louisiana Street
Houston, Texas 77002
Tel No: (713) 207-5767
Fax: (713) 207-9840
Denise.Hardcastle@CenterPointEnergy.com

TABLE OF CONTENTS

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CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-01

QUESTION:

Please reference the Microsoft (MS) Excel workbook *"CEHE RFP Workpapers (redacted)" filed with CenterPoint Energy Houston Electric, LLC's (CEHE's) April 5, 2019 application. In MS worksheet "WP II-E-4.1.1 ," CEHE shows the Original Amount to be Amortized amount of ($4,030,874) associated with the regulatory liability balance related to the Hurricane Ike residual (Hurricane Ike Regulatory Liability). This Hurricane Ike Regulatory Liability of ($4,030,874) was indirectly derived from MS worksheet "WP II-B-11 Adj 7".*

a. Provide, in electronic spreadsheet format with cell references and formulae intact, the derivation of the *Annual Interest Rate* of 11.075% in cell "B5" of the MS worksheet "WP 11-B-11 Adj 7," which as indicated by CEHE in cell "C5" has Docket No. 38339 as its source (i.e., *Source: Docket No. 38339)*. Please provide an explanation of how CEHE chose the different inputs (e.g., cost of debt, cost of long-term debt, return on common shareholders equity, etc.) used to derive the *Annual Interest Rate* of 11.075%.

ANSWER:

The annual interest rate of 11.075% is not from Docket No. 38339. WP II-B-11 Adj 7 Cell 5 referenced the source of the 11.075% in error. It is the annual interest rate authorized by Docket No. 36918 Findings of Fact No. 1 for Hurricane Ike. It is also the Company's pre-tax weighted average cost of capital authorized by Docket No. 22355.

SPONSOR (PREPARER):
Kristie Colvin (Kristie Colvin)

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-02

QUESTION:

Please state whether and how the Company performed an adjustment to its Test Year kWh and revenues for the street lighting class to annualize the installation of LED lighting fixtures that occurred during the Test Year. Please also provide the amount of the energy adjustment, if any, and the corresponding adjustment to present revenues, if any. To the extent the Company has not performed this analysis, please provide lighting kWh and lighting present revenues reflecting an annualization of LED installations during the Test Year and provide the corresponding workpapers.

ANSWER:

Please see WP - Schedule H tab WP H 1.2 for adjustments to SLS and MLS kWh. Please note that the kWh adjustment reflected in this workpaper is based on the number of customers, not the number of lamps or lamp types. Also, the Test Year adjusted kWh data was only used to formulate the Lighting allocation factors used in certain riders. There was no corresponding adjustment to present revenues and the kWh adjustment was not used to formulate the Lighting class base rates.

Please see WP – Streetlight Rate Design tab Proof of Rev, which shows the annual number of active billed street light lamps.

SPONSOR (PREPARER):
Matthew Troxle (Matthew Troxle)

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-03

QUESTION:

Please refer to Confidential attachment PUC03-1 0 - *LED Streetlight Program,* at 6. Please provide the workpapers that support the NPV, IRR, and Payback period metrics in this attachment.

ANSWER:

Please see attachment PUC09-03 Attachment 1.xlsx.

SPONSOR (PREPARER):
Matthew Troxle/Julienne Sugarek (Matthew Troxle, Julienne Sugarek)

RESPONSIVE DOCUMENTS:
PUC09-03 Attachment 1.xlsx.

Financial Summary

in Thousands of units	2018	2019	2020	2021	2022
New Installations	7.6	7.6	7.6	7.6	7.6
HPS Replacements	46.3	46.3	46.3	46.3	46.3
Total New LED	53.9	53.9	53.9	53.9	53.9

in $ Millions	2018	2019	2020	2021	2022
Gross Capex	10.8	10.8	10.8	10.7	10.7
Net Capex[1]	8.6	8.5	8.4	8.3	7.9

Without Rate Recovery

Avoided O&M[2]	2.6	2.6	2.6	2.8	3.7
Operating Income	2.5	2.2	1.9	1.8	2.4

With Rate Recovery

Avoided O&M	2.6	2.6	2.6	2.8	3.7
Operating Income	2.5	2.6	1.7	1.5	3.1

	November 2017	
	10 Year	30 Year
PV	(6.3)	10.8
RR	-0.3%	9.9%

rs)	17.2

	November 2017		May 2017	
	10 Year	30 Year	10 Year	30 Year
PV	(2.6)	7.5	(5.1)	5.0
RR	3.5%	9.6%	2.1%	8.8%

rs)	13.7

Model Scope

Estimates the financial impact of instituting a LED conversion program for the 231k non-COH streetlight luminaires.

General Assumptions

Tax Rate	35 49%	*Steve Winn*
Discount Rate	6 00%	*2017 hurdle rate memo*
Model Start Year	2018	
O&M Escalation	3.00%	*Deryl Tumlinson*
LED Materials Inflation	-2.00%	*Shelton Mitchell*
HPS Materials Inflation	2 00%	*Shelton Mitchell*
Ad valorem Tax Rate	2 70%	*Joseluis Hernandez*
Initial HPS Count (000)	231.482	*Marsha Sommerfeld (Nov. 2, 2017)*
Conversion Period (years)	5	*Marsha Sommerfeld (Nov. 2, 2017)*
Annual Streetlight Growth (000)	7 6	*Marsha Sommerfeld (Nov. 2, 2017)*
LED Warranty Period (years)	10	*Shelton Mitchell (October 24, 2017)*

Capital Assumptions	Cap Mtrls	Cap Labor	Tot Cap	Book Rate	Tax Rate
LED Lights	$140.89	$60 31	$201.20	3 46%	14.29%
HPS Lights	$93 47	$60 31	$153.78	3 46%	14 29%
	Marsha Sommerfeld	*Marsha Sommerfeld*		Jessica Thayer	Steve Winn

Expense Assumptions	Tot Exp	
LED Lights	$60.31	*=[2017 YTD O&M] / [2017 Bulb Replacements] - [avg mtrl cost per bulb]*
HPS Lights	$66.89	*=[2017 YTD O&M] / [2017 Bulb Replacements]*
	Marsha Sommerfeld	

Expense Assumptions Table		
Crew Charge for Light Replacements	**2,114,412**	***LED Streetlight O&M Repair Costs - (11/02/2017)***
Hours Charged for Replacements	**23,374**	***LED Streetlight O&M Repair Costs - (11/02/2017)***
Hourly Rate	**90.46**	***LED Streetlight O&M Repair Costs - (11/02/2017)***
Lights replaced	**35,061**	***LED vs. Street Lighting Evaluation presentation (2/20/2017) - no significant updates***
$ Expense per HPS light bulb	**6.58**	***LED vs. Street Lighting Evaluation presentation (2/20/2017) - no significant updates***

Estimated O&M Expense for light bulbs	230,701	***LED vs. Street Lighting Evaluation presentation (2/20/2017) - no significant updates***

Failure Rate Assumptions

	HPS	LED	
% Capital	15.00%	100 00%	*HPS luminaires have a 29 year life and bulbs have a 5 year life LED bulbs cannot be replaced, thus failure of luminaire compenents requires luminaire replacement.*
% O&M	85.00%	0.00%	
Bulb/Luminaire Failure			
Mean Life	5	15	*Shelton Mitchell (October 24, 2017)*
Sigma Life	1.00	5.00	*Estimate based on observed failure rates*

Year	HPS	LED
0	0%	0%
1	0%	0%
2	0%	0%
3	5%	0%
4	24%	1%
5	40%	1%
6	24%	2%
7	6%	2%
8	6%	3%
9	24%	4%
10	40%	5%
11	24%	6%
12	6%	7%
13	6%	7%
14	24%	8%
15	40%	8%

16	24%	8%
17	6%	8%
18	6%	7%
19	24%	7%
20	40%	6%
21	24%	6%
22	6%	5%
23	6%	5%
24	24%	6%
25	40%	6%
26	24%	7%
27	6%	7%
28	6%	8%
29	24%	8%
30	40%	8%

Capital Structure	DCRF and Rate Case			TCOS Filings				Book	Savings
Equity	45%	9.50%	4.28%	45%	9.50%	4.28%	Asset Life	29	29
Debt	55%	4.69%	2.58%	55%	6.74%	3.71%	Dep Rate	3.4%	3.4%
	100%		6.85%	100%		7.98%	Other Taxes	2.6%	
							% allocated to Filings	**100%**	
							% to TCOS	**0%**	
							% to DCRF	**100%**	

DCRF Filings

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Assumed new Capital in Service at Year End		8.61	8.51	8.41	8.25	7.85	(0.69)	(1.04)	(1.10)	(1.08)	(1.05)	(0.73)	(0.30)	0.25	0.84	1.43	1.78	2.02	2.15	2.14	2.03	1.78	1.48	1.15	0.87	0.68	0.58	0.59	0.71	0.91	1.14	1.36
Accumulated Depreciation		(0.15)	(0.44)	(0.74)	(1.02)	(1.30)	(1.42)	(1.39)	(1.36)	(1.32)	(1.28)	(1.25)	(1.23)	(1.23)	(1.25)	(1.29)	(1.35)	(1.39)	(1.41)	(1.48)	(1.56)	(1.63)	(1.71)	(1.75)	(1.80)	(1.83)	(1.86)	(1.88)	(1.90)	(1.92)	(1.80)	(1.54)
AFUDC																																
Net Increase to Plant in Service		8.46	8.06	7.67	7.23	6.55	(2.11)	(2.43)	(2.46)	(2.39)	(2.33)	(1.98)	(1.53)	(0.99)	(0.41)	0.14	0.43	0.65	0.71	0.66	0.47	0.15	(0.22)	(0.60)	(0.92)	(1.16)	(1.28)	(1.29)	(1.19)	(1.01)	(0.67)	(0.18)
Change in Deferred Taxes		(1.43)	(1.50)	(1.00)	(1.38)	(1.60)	(1.38)	(0.86)	(0.48)	(0.16)	0.10	0.36	0.59	0.66	0.55	0.42	0.28	0.25	0.21	0.09	(0.00)	(0.05)	(0.04)	0.01	0.05	0.10	0.19	0.27	0.34	0.39	0.36	0.25
Net Increase to Rate Base		7.03	6.56	6.67	5.84	4.95	(3.50)	(3.30)	(2.94)	(2.55)	(2.24)	(1.62)	(0.94)	(0.33)	0.14	0.56	0.72	0.90	0.95	0.75	0.47	0.10	(0.26)	(0.59)	(0.87)	(1.06)	(1.09)	(1.02)	(0.85)	(0.62)	(0.30)	0.08

Revenue Requirement For DCRF Filing		Filing in 2017	Filing in 2018	Filing in 2019	Filing in 2020	Filing in 2021	Filing in 2022	Filing in 2023	Filing in 2024	Filing in 2025	Filing in 2026	Filing in 2027	Filing in 2028	Filing in 2029	Filing in 2030	Filing in 2031	Filing in 2032	Filing in 2033	Filing in 2034	Filing in 2035	Filing in 2036	Filing in 2037	Filing in 2038	Filing in 2039	Filing in 2040	Filing in 2041	Filing in 2042	Filing in 2043	Filing in 2044	Filing in 2045	Filing in 2046	Filing in 2047
Full Year Book Depreciation on Incremental Capital			0.30	0.29	0.29	0.28	0.27	(0.02)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.01)	0.01	0.03	0.05	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.03	0.02	0.02	0.02	0.02	0.03	0.04
Other Taxes on Incremental Capital			0.22	0.21	0.20	0.19	0.17	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.04)	(0.03)	(0.01)	0.00	0.01	0.02	0.02	0.02	0.01	0.00	(0.01)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
FIT for Revenue Requirement on Incremental Capital			0.16	0.15	0.16	0.14	0.12	(0.08)	(0.08)	(0.07)	(0.06)	(0.05)	(0.04)	(0.02)	(0.01)	0.00	0.01	0.02	0.02	0.02	0.02	0.00	(0.00)	(0.01)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	0.01	(0.01)
Return on Rate Base on Incremental Capital			0.48	0.45	0.46	0.40	0.34	(0.24)	(0.23)	(0.20)	(0.17)	(0.15)	(0.11)	(0.06)	(0.02)	0.01	0.04	0.05	0.06	0.07	0.05	0.03	0.01	(0.02)	(0.04)	(0.06)	(0.07)	(0.07)	(0.07)	(0.06)	(0.04)	(0.02)
Annual Incremental Revenue Requirement			1.16		1.10	1.01	0.90	(0.40)	(0.40)		(0.33)	(0.30)	(0.22)	(0.14)	(0.05)		0.10	0.14	0.17	0.18	0.16		0.07	0.02	(0.03)	(0.07)	(0.10)		(0.11)	(0.08)	(0.05)	(0.01)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
DCRF Revenue from 2016 Capital Spend Placed in Service in 2017																																
DCRF Revenue decrease from Rate Base Decline in 2018			0.39	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
DCRF Revenue decrease from Rate Base Decline in 2019																																
DCRF Revenue decrease from Rate Base Decline in 2020					0.37	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
DCRF Revenue decrease from Rate Base Decline in 2021						0.74	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
DCRF Revenue decrease from Rate Base Decline in 2022							0.30	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
DCRF Revenue decrease from Rate Base Decline in 2023								(0.13)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)
DCRF Revenue decrease from Rate Base Decline in 2024									(0.13)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)
DCRF Revenue decrease from Rate Base Decline in 2025																																
DCRF Revenue decrease from Rate Base Decline in 2026											(0.11)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)
DCRF Revenue decrease from Rate Base Decline in 2027												(0.10)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)
DCRF Revenue decrease from Rate Base Decline in 2028													(0.07)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)
DCRF Revenue decrease from Rate Base Decline in 2029														(0.05)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
DCRF Revenue decrease from Rate Base Decline in 2030															(0.02)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
DCRF Revenue decrease from Rate Base Decline in 2031																																
DCRF Revenue decrease from Rate Base Decline in 2032																	0.03	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
DCRF Revenue decrease from Rate Base Decline in 2033																		0.05	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
DCRF Revenue decrease from Rate Base Decline in 2034																			0.06	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
DCRF Revenue decrease from Rate Base Decline in 2035																				0.06	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
DCRF Revenue decrease from Rate Base Decline in 2036																					0.05	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
DCRF Revenue decrease from Rate Base Decline in 2037																																
DCRF Revenue decrease from Rate Base Decline in 2038																							0.02	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
DCRF Revenue decrease from Rate Base Decline in 2039																								0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
DCRF Revenue decrease from Rate Base Decline in 2040																									(0.01)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
DCRF Revenue decrease from Rate Base Decline in 2041																										(0.02)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
DCRF Revenue decrease from Rate Base Decline in 2042																											(0.03)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
DCRF Revenue decrease from Rate Base Decline in 2043																																
DCRF Revenue decrease from Rate Base Decline in 2044																													(0.04)	(0.11)	(0.11)	(0.11)
DCRF Revenue decrease from Rate Base Decline in 2045																														0.03	(0.08)	(0.08)
DCRF Revenue decrease from Rate Base Decline in 2046																															(0.02)	(0.05)
DCRF Revenue decrease from Rate Base Decline in 2047																																(0.00)
DCRF Revenue decrease from Rate Base Decline in 2048																																
Cumulative DCRF Revenues			**0.39**	**1.16**	**1.53**	**2.60**	**3.58**	**4.04**	**3.64**	**3.37**	**3.26**	**2.96**	**2.66**	**2.44**	**2.36**	**2.33**	**2.36**	**2.48**	**2.63**	**2.80**	**2.97**	**3.08**	**3.10**	**3.16**	**3.16**	**3.12**	**3.04**	**2.97**	**2.93**	**2.88**	**2.76**	**2.72**

Rate Case Filings

[illegible]

Revenue Deficiency Analysis	2017	[illegible]	2019	2020	2021	2022	2023	[illegible]	2025	2026	2027	2028	2029	[illegible]	2031	2032	2033	2034	2035	[illegible]	2037	2038	2039	2040	2041	[illegible]	2043	2044	2045	2046	2047	[illegible]
Net Income pre DCRF Recovery, unlevered		[illegible]	1.41	1.23	1.16	1.53	0.42	[illegible]	1.28	1.41	1.60	1.85	2.04	[illegible]	2.23	2.29	2.34	2.41	2.47	[illegible]	2.55	2.60	2.66	2.72	2.81	[illegible]	3.00	3.13	3.23	3.35	3.56	[illegible]
Interest Expense after Tax		[illegible]	(0.23)	(0.34)	(0.43)	(0.52)	(0.46)	[illegible]	(0.35)	(0.31)	(0.28)	(0.25)	(0.23)	[illegible]	(0.23)	(0.24)	(0.27)	(0.27)	(0.28)	[illegible]	(0.30)	(0.30)	(0.30)	(0.29)	(0.27)	[illegible]	(0.24)	(0.22)	(0.21)	(0.20)	(0.19)	[illegible]
Allowed Net Income (Equity Rate Base * Allowed ROE)		[illegible]	0.58	0.87	1.12	1.33	1.18	[illegible]	0.92	0.80	0.71	0.64	0.60	[illegible]	0.59	0.61	0.64	0.68	0.72	[illegible]	0.78	0.78	0.77	0.74	0.73	[illegible]	0.61	0.57	0.53	0.51	0.49	[illegible]
Net Income over (under) earning		[illegible]	0.60	0.03	(0.39)	(0.32)	(1.22)	[illegible]	0.01	0.29	0.61	0.96	1.21	[illegible]	1.41	1.44	1.43	1.46	1.47	[illegible]	1.48	1.52	1.59	1.69	1.82	[illegible]	2.15	2.34	2.49	2.64	2.87	[illegible]
Revenue over (under) earning		[illegible]	0.94	0.04	(0.60)	(0.49)	(1.89)	[illegible]	0.02	0.45	0.95	1.49	1.88	[illegible]	2.19	2.24	2.25	2.27	2.28	[illegible]	2.29	2.35	2.46	2.62	2.82	[illegible]	3.33	3.60	3.86	4.10	4.45	[illegible]
Plus: Recovery not yet collected		[illegible]	1.16	1.16	2.26	3.28	4.17	[illegible]	1.53	1.53	0.20	(0.44)	(0.66)	[illegible]	(0.85)	(0.85)	(1.70)	(1.89)	(1.72)	[illegible]	(1.38)	(1.38)	(1.85)	(2.01)	(2.04)	[illegible]	(2.22)	(2.22)	(3.04)	(3.36)	(3.42)	[illegible]
Adjusted Revenue over (under) earning		[illegible]	2.10	1.20	1.67	2.79	2.28	[illegible]	1.55	1.99	1.15	1.05	1.21	[illegible]	1.34	1.39	0.54	0.38	0.56	[illegible]	0.91	0.98	0.61	0.61	0.78	[illegible]	1.11	1.38	0.82	0.73	1.04	[illegible]

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Rate Case Revenue from 2019 Filing				(1.38)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	(1.84)	
Rate Case Revenue from 2025 Filing										(1.00)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	(1.34)	
Rate Case Revenue from 2031 Filing																(0.96)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	(1.28)	
Rate Case Revenue from 2037 Filing																						(0.55)	(0.73)	(0.73)	(0.73)	(0.73)	(0.73)	(0.73)	(0.73)	(0.73)	(0.73)	
Rate Case Revenue from 2043 Filing																												(0.73)	(0.95)	(0.95)	(0.95)	
Rate Case Revenue from 2049 Filing																																
Cumulative Rate Case Revenues			**-**	**(1.38)**	**(1.84)**	**(1.84)**	**(1.84)**	**(1.84)**	**(1.84)**	**(1.84)**	**(2.84)**	**(3.17)**	**(3.17)**	**(3.17)**	**(3.17)**	**(3.17)**	**(4.13)**	**(4.46)**	**(4.46)**	**(4.46)**	**(4.46)**	**(4.46)**	**(5.00)**	**(5.19)**	**(5.19)**	**(5.19)**	**(5.19)**	**(5.19)**	**(5.90)**	**(6.14)**	**(6.14)**	**(6.14)**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Total Revenues from Recovery	-		**0.39**	**(0.22)**	**(0.31)**	**0.77**	**1.74**	**2.20**	**1.80**	**1.53**	**0.42**	**(0.21)**	**(0.51)**	**(0.73)**	**(0.81)**	**(0.84)**	**(1.77)**	**(1.98)**	**(1.83)**	**(1.66)**	**(1.49)**	**(1.38)**	**(1.90)**	**(2.03)**	**(2.03)**	**(2.07)**	**(2.15)**	**(2.22)**	**(2.97)**	**(3.26)**	**(3.38)**	**(3.42)**

		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
x BALANCE SHEET																																
Beginning Plant			8 607	17 113	25 521	33 773	41 625	40 932	39 893	38 788	37 712	36 663	35 933	35 637	35 884	36 724	38 156	39 935	41 958	44 109	46 253	48 283	50 062	51 538	52 691	53 565	54 242	54 820	55 410	56 117	57 028	58 165
New Plant		8,607	8,506	8,408	8,252	7,852	(693)	(1,040)	(1,105)	(1,076)	(1,049)	(730)	(296)	247	846	1,432	1,779	2,023	2,151	2,145	2,030	1,779	1,476	1,153	874	677	578	589	708	911	1,137	1,363
Total Plant		8 607	17 113	25 521	33 773	41 625	40 932	39 893	38 788	37 712	36 663	35 933	35 637	35 884	36 724	38 156	39 935	41 958	44 109	46 253	48 283	50 062	51 538	52 691	53 565	54 242	54 820	55 410	56 117	57 028	58 165	59 528
Accumulated Depreciation		(148)	(592)	(1,327)	(2,349)	(3,649)	(5,073)	(6,466)	(7,823)	(9,142)	(10,424)	(11,676)	(12,910)	(14,143)	(15,395)	(16,686)	(18,032)	(19,409)	(20,821)	(22,305)	(23,863)	(25,493)	(27,188)	(28,940)	(30,737)	(32,569)	(34,428)	(36,308)	(38,209)	(40,132)	(41,934)	(43,477)
Net Plant		8 459	16 521	24 194	31 424	37 976	35 860	33 426	30 965	28 570	26 239	24 257	22 727	21 741	21 329	21 470	21 903	22 549	23 288	23 948	24 420	24 569	24 350	23 751	22 828	21 673	20 392	19 101	17 909	16 897	16 231	16 052
Accumulated Deferred Income Tax		(1,431)	(2,930)	(3,934)	(5,319)	(6,922)	(8,302)	(9,166)	(9,641)	(9,798)	(9,703)	(9,339)	(8,745)	(8,089)	(7,539)	(7,121)	(6,838)	(6,589)	(6,378)	(6,290)	(6,290)	(6,340)	(6,376)	(6,365)	(6,315)	(6,212)	(6,022)	(5,750)	(5,408)	(5,018)	(4,657)	(4,402)
Rate Base		7 029	13 591	20 261	26 105	31 054	27 558	24 260	21 324	18 772	16 536	14 918	13 983	13 652	13 790	14 349	15 065	15 960	16 910	17 658	18 130	18 229	17 974	17 386	16 513	15 461	14 370	13 351	12 500	11 879	11 574	11 650
x INCOME STATEMEN																																
Rate Recovery																																
Operating & Maintenance Expense																																
Expenses																																
LED O&M																																
Avoided HPS O&M		2 632	2 711	2 805	3 070	3 997	2 483	3 443	3 752	3 910	4 163	4 520	4 800	4 977	5 129	5 283	5 442	5 605	5 773	5 946	6 125	6 308	6 498	6 693	6 893	7 100	7 313	7 533	7 758	7 991	8 231	9 478
Ad valorem Taxes			(79)	(160)	(244)	(329)	(414)	(415)	(412)	(409)	(406)	(402)	(402)	(407)	(418)	(436)	(462)	(493)	(529)	(567)	(606)	(646)	(683)	(717)	(748)	(775)	(801)	(826)	(851)	(879)	(911)	(948)
Total O&M Benefit (Expense)		2 632	2 632	2 645	2 827	3 668	2 069	3 028	3 339	3 500	3 758	4 118	4 398	4 571	4 712	4 847	4 979	5 112	5 244	5 379	5 518	5 663	5 815	5 975	6 146	6 325	6 512	6 707	6 907	7 112	7 320	7 530
EBITDA		2,632	3,019	2,428	2,518	4,433	3,808	5,231	5,141	5,033	4,177	3,880	3,884	3,862	3,896	4,000	3,207	3,134	3,415	3,722	4,035	4,286	3,913	3,947	4,122	4,257	4,361	4,487	3,937	3,805	3,939	4,113
Depreciation		(148)	(443)	(735)	(1 022)	(1 300)	(1 423)	(1 394)	(1 357)	(1 319)	(1 282)	(1 252)	(1 234)	(1 233)	(1 252)	(1 291)	(1 346)	(1 377)	(1 412)	(1 484)	(1 558)	(1 630)	(1 696)	(1 752)	(1 797)	(1 832)	(1 859)	(1 880)	(1 901)	(1 923)	(1 802)	(1 543)
EBIT (Operating Income)		2,484	2,575	1,693	1,496	3,133	2,385	3,838	3,784	3,714	2,894	2,628	2,650	2,629	2,645	2,709	1,860	1,757	2,003	2,238	2,477	2,656	2,217	2,195	2,325	2,425	2,502	2,606	2,037	1,882	2,136	2,570
Income Taxes		(881)	(914)	(601)	(531)	(1 112)	(846)	(1 362)	(1 343)	(1 318)	(1 027)	(933)	(941)	(933)	(939)	(962)	(660)	(623)	(711)	(794)	(879)	(942)	(787)	(779)	(825)	(861)	(888)	(925)	(723)	(668)	(758)	(912)
Net Income		1,602	1,661	1,092	965	2,021	1,538	2,476	2,441	2,396	1,867	1,695	1,710	1,696	1,706	1,748	1,200	1,133	1,292	1,444	1,598	1,713	1,430	1,416	1,500	1,564	1,614	1,681	1,314	1,214	1,378	1,658
x CASH FLOW																																
Net Income		1 602	1 661	1 092	965	2 021	1 538	2 476	2 441	2 396	1 867	1 695	1 710	1 696	1 706	1 748	1 200	1 133	1 292	1 444	1 598	1 713	1 430	1 416	1 500	1 564	1 614	1 641	1 314	1 214	1 378	1 658
Depreciation		148	443	735	1 022	1 300	1 423	1 394	1 357	1 319	1 282	1 252	1 234	1 233	1 252	1 291	1 346	1 377	1 412	1 484	1 558	1 630	1 696	1 752	1 797	1 832	1 859	1,880	1 901	1 923	1 802	1 543
Deferred Income Tax		1,431	1 499	1 004	1 385	1 604	1 379	864	475	157	(95)	(364)	(595)	(656)	(550)	(418)	(283)	(249)	(211)	88	1	49	36	(11)	(50)	(103)	(190)	(272)	(342)	(390)	(361)	(255)
Capital Expenditures		(8,607)	(8,506)	(8,408)	(8,252)	(7,852)	693	1,040	1,105	1,076	1,049	730	296	(247)	(840)	(1,432)	(1,779)	(2,023)	(2,151)	(2,145)	(2,030)	(1,779)	(1,476)	(1,153)	(874)	(677)	(578)	(589)	(708)	(911)	(1,137)	(1,363)
Free Cash Flow		(5 425)	(4 902)	(5 577)	(4 880)	(2 927)	5 034	5 773	5 378	4 948	4 103	3 313	2 645	2 026	1 569	1 189	485	238	342	695	1 126	1 613	1 686	2 004	2 373	2 616	2 705	2 700	2 165	1 836	1 683	1 582
PV of Cash Flows		(5 425)	(4 625)	(4 964)	(4 097)	(2 319)	3 762	4 070	3 577	3 104	2 429	1 850	1 393	1 007	735	526	202	94	127	244	372	507	496	556	621	646	630	593	449	359	311	276
Cumulative PV of Cash Flows		(5 425)	(10 050)	(15 014)	(19 111)	(21 430)	(17 668)	(13 598)	(10 021)	(6 917)	(4 488)	(2 638)	(1 245)	(238)	498	1 023	1 225	1 319	1 446	1 690	2 062	2 565	3 061	3 617	4 238	4 884	5 515	6 108	6 557	6 916	7 227	7 502
Payback Period (Count)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NPV @ 10 Years		(2 639)																														
IRR @ 10 Years		3.5%																														
NPV @ 30 Years		7 502																														
IRR @ 30 Years		9.6%																														
Discounted Payback Period (Years)		13.7																														
x LED ASSUMPTIONS																																
Non Warranty O&M																																
LED O&M Expense ($000)			-		-			-				-													-	-						
New Installations		10 844	10 789	10 741	10 699	10 662	1 499	1 496	1 493	1 492	1 491	1 491	1 492	1 494	1 497	1 500	1 505	1 511	1 517	1 525	1 533	1 543	1 553	1 565	1 577	1 591	1 606	1 622	1 639	1 657	1 676	1 697
Warranty Replacements			7	17	32	59	102	160	243	359	510	484	435	359	244	82	76	67	52	30												
Non Warranty Capital Repairs												507	1,121	1,833	2 621	3 458	3 893	4 231	4 458	4 561	4 565	4 403	4,197	3 961	3 776	3 675	3 674	3 785	4 004	4 311	4 642	4 975
LED Total Capex ($000)		10 844	10 796	10 758	10 731	10 721	1 601	1 656	1 736	1,851	2,001	2,482	3,049	3 685	4 362	5 040	5 474	5 809	6 028	6 116	6,098	5 946	5,749	5 526	5 353	5 266	5 280	5 407	5 643	5 968	6 318	6 672
LED Support																																
Beg LED Lights (000)			54	108	162	216	269	277	285	292	300	307	315	323	330	338	345	353	361	368	376	383	391	399	406	414	421	429	437	444	452	459
New LED Lights (000)		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Converted from HPS (000)		46	46	46	46	46																						-			-	
End LED Lights (000)		54	108	162	216	269	277	285	292	300	307	315	323	330	338	345	353	361	368	376	383	391	399	406	414	421	429	437	444	452	459	467
Capital Materials ($/replacement)		141	138	135	133	130	127	125	122	120	117	115	113	111	108	106	104	102	100	98	96	94	92	90	89	87	85	83	82	80	78	77
Capital Labor ($/replacement)		60	62	64	66	68	70	72	74	76	79	81	83	86	89	91	94	97	100	103	106	109	112	116	119	123	126	130	134	138	142	146
Total Capital ($/replacement)		201	200	199	199	198	197	197	196	196	196	196	196	197	197	197	198	199	200	201	202	203	204	206	208	209	211	213	216	218	221	223
LED Failure Count (000)	Installed LEDs																															
2018	54		0	0	0	0	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	4	4	4	4	4
2019	54		-	0	0	0	0	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	4	4	4	4
2020	54				0	0	0	0	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	4	3	3	3	3	3	4	4	4
2021	54		-			0	0	0	0	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	4	4
2022	54						0	0	0	0	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	4
2023	8					-		0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0
2024	8	-				-	-		0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0
2025	8	-					-			0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0
2026	8							-			0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0
2027	8	-					-	-				0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0
LED Failures (000)			0	0	0	1	1	2	3	5	6	9	11	13	16	18	20	22	23	23	23	22	21	19	18	18	17	18	19	20	21	22
Warranty Failures (capital labor only)																																
2018			0	0	0	0	1	1	1	2	2					-																
2019		-		0	0	0	0	1	1	1	2	2				-				-												
2020		-			0	0	0	0	1	1	1	2	2																			
2021						0	0	0	0	1	1	1	2	2						-				-								
2022							0	0	0	0	1	1	1	2	2					-					-							
2023								0	0	0	0	0	0	0	0	0				-												
2024									0	0	0	0	0	0	0	0	0															
2025		-		-						0	0	0	0	0	0	0	0	0					-									
2026											0	0	0	0	0	0	0	0	0													
2027												0	0	0	0	0	0	0	0	0									-			
LED Warranty Failures (000)			0	0	0	1	1	2	3	5	6	6	5	4	3	1	1	1	1	0					-							
O&M Expense per failure ($)		60.31	62.12	63.98	65.90	67.88	69.91	72.01	74.17	76.39	78.69	81.05	83.48	85.98	88.56	91.22	93.96	96.77	99.68	102.67	105.75	108.92	112.19	115.55	119.02	122.59	126.27	130.06	133.96	137.98	142.12	146.38
x HPS ASSUMPTIONS																																
HPS Avoided O&M Expense ($000)		(2 632)	(2 711)	(2 805)	(3,070)	(3,997)	(2,483)	(3 443)	(3 752)	(3,910)	(4 163)	(4 520)	(4 800)	(4 977)	(5 128)	(5 283)	(5 442)	(5,605)	(5 773)	(5 946)	(6 125)	(6 308)	(6 498)	(6 693)	(6 893)	(7 100)	(7,313)	(7,533)	(7 758)	(7,991)	(8,231)	(8 478)
New Installations		(1 169)	(1 197)	(1 225)	(1 255)	(1 285)	(1 316)	(1 347)	(1 380)	(1 413)	(1 447)	(1 482)	(1 518)	(1 554)	(1 592)	(1 631)	(1 670)	(1 711)	(1,752)	(1 795)	(1 839)	(1 883)	(1 929)	(1 976)	(2 025)	(2 074)	(2 125)	(2 177)	(2 231)	(2 285)	(2 342)	(2 399)
Capital Repairs		(1 068)	(1 093)	(1 125)	(1 224)	(1 584)	(978)	(1 349)	(1 461)	(1 514)	(1 603)	(1 730)	(1 827)	(1 884)	(1 930)	(1 977)	(2 025)	(2 074)	(2 125)	(2 176)	(2 229)	(2 284)	(2 339)	(2 398)	(2 455)	(2 515)	(2 577)	(2 640)	(2 705)	(2 771)	(2 839)	(2 909)
Avoided HPS Capex ($000)		(2 237)	(2 290)	(2 350)	(2,479)	(2 869)	(2 294)	(2 696)	(2 841)	(2 927)	(3 060)	(3 212)	(3 345)	(3 438)	(3,522)	(3,608)	(3 695)	(3,785)	(3 877)	(3 971)	(4,068)	(4 167)	(4 269)	(4 373)	(4,480)	(4,589)	(4,702)	(4 817)	(4 935)	(5 057)	(5 181)	(5 308)
HPS Support																																
Beg HPS Lights (000)		231	185	139	93	46																										

New HPS Lights (000)																																
Converted to LED (000)		(46)	(46)	(46)	(46)	(46)			-																	-						
End HPS Lights (000)		185	139	93	46																-											
New HPS Light Installs, Avoided (000)		(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
Capital Materials ($/replacement)		93	95	97	99	101	103	105	107	110	112	114	116	119	121	123	126	128	131	133	136	139	142	145	147	150	153	156	160	163	166	169
Capital Labor ($/replacement)		60	62	64	66	68	70	72	74	76	79	81	83	86	89	91	94	97	100	103	106	109	112	116	119	123	126	130	134	138	142	146
Total Capital ($/replacement)		154	157	161	165	169	173	177	182	186	190	195	200	205	209	215	220	225	231	236	242	248	254	260	266	273	280	286	294	301	308	316
Avoided HPS O&M																																
Capitalized LED conversions (000)		46	46	46	46	46															-											
Avoided failure of HPS base (000)																																
2018	54			0	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22
2019	54				0	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13
2020	54					0	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	[illegible]
2021	54						0	3	13	22	13	3	3	13	72	13	3	3	13	22	13	3	3	11	22	13	3	3	13	22	13	3
2022	54							0	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13	3	3	13	22	13
2023	9								0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0	2	3
2024	8	-								0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0	2
2025	8	-	-								0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0
2026	8											0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0
2027	8		-										0	0	2	3	2	0	0	2	3	2	0	0	2	3	2	0	0	2	3	2
Avoided HPS Failures (000)		46	46	47	49	62	38	51	54	54	56	59	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
O&M Expense per failure ($)		66 39	68 89	70 96	73 09	75 28	77 54	79 87	82 26	84 73	87 27	89 89	92 59	95 36	98 23	101 17	104 21	107 33	110 55	113 87	117 29	120 80	124 43	128 16	132 01	135 97	140 05	144 25	148 57	153 03	157 62	162 35

	2018	*2019*	*2020*	*2021*	*2022*	*2023*	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*	*2030*	*2031*	*2032*	*2033*	*2034*
	0	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
x **BALANCE SHEET**																	
Beginning Plant	-	8,607	17,113	25,521	33,773	41,625	40,932	39,893	38,788	37,712	36,663	35,933	35,637	35,884	36,724	38,156	39,935
New Plant	8,607	8,506	8,408	8,252	7,852	(693)	(1,040)	(1,105)	(1,076)	(1,049)	(730)	(296)	247	840	1,432	1,779	2,023
Total Plant	8,607	17,113	25,521	33,773	41,625	40,932	39,893	38,788	37,712	36,663	35,933	35,637	35,884	36,724	38,156	39,935	41,958
Accumulated Depreciation	(148)	(592)	(1,327)	(2,349)	(3,649)	(5,073)	(6,466)	(7,823)	(9,142)	(10,424)	(11,676)	(12,910)	(14,143)	(15,395)	(16,686)	(18,032)	(19,409)
Net Plant	8,459	16,521	24,194	31,424	37,976	35,860	33,426	30,965	28,570	26,239	24,257	22,727	21,741	21,329	21,470	21,903	22,549
Accumulated Deferred Income Tax	(1,431)	(2,930)	(3,934)	(5,319)	(6,922)	(8,302)	(9,166)	(9,641)	(9,798)	(9,703)	(9,339)	(8,745)	(8,089)	(7,539)	(7,121)	(6,838)	(6,589)
Rate Base	7,028	13,591	20,261	26,105	31,054	27,558	24,260	21,324	18,772	16,536	14,918	13,983	13,652	13,790	14,349	15,065	15,960
x INCOME STATEMENT																	
Rate Recovery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating & Maintenance Expense																	
Expenses																	
LED O&M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Avoided HPS O&M	2,632	2,711	2,805	3,070	3,997	2,483	3,443	3,752	3,910	4,163	4,520	4,800	4,977	5,129	5,283	5,442	5,605
Ad valorem Taxes		(79)	(160)	(244)	(329)	(414)	(415)	(412)	(409)	(406)	(402)	(402)	(407)	(418)	(436)	(462)	(493)
Total O&M Benefit (Expense)	2,632	2,632	2,645	2,827	3,668	2,069	3,028	3,339	3,500	3,758	4,118	4,398	4,571	4,712	4,847	4,979	5,112
EBITDA	2,632	2,632	2,645	2,827	3,668	2,069	3,028	3,339	3,500	3,758	4,118	4,398	4,571	4,712	4,847	4,979	5,112
Depreciation	(148)	(443)	(735)	(1,022)	(1,300)	(1,423)	(1,394)	(1,357)	(1,319)	(1,282)	(1,252)	(1,234)	(1,233)	(1,252)	(1,291)	(1,346)	(1,377)
EBIT (Operating Income)	2,484	2,189	1,910	1,804	2,368	646	1,635	1,983	2,182	2,475	2,866	3,164	3,338	3,460	3,556	3,633	3,734
Income Taxes	(881)	(777)	(678)	(640)	(840)	(229)	(580)	(704)	(774)	(878)	(1,017)	(1,123)	(1,184)	(1,228)	(1,262)	(1,289)	(1,325)
Net Income	1,602	1,412	1,232	1,164	1,528	417	1,054	1,279	1,407	1,597	1,849	2,041	2,153	2,232	2,294	2,344	2,409
x CASH FLOW																	
Net Income	1,602	1,412	1,232	1,164	1,528	417	1,054	1,279	1,407	1,597	1,849	2,041	2,153	2,232	2,294	2,344	2,409
Depreciation	148	443	735	1,022	1,300	1,423	1,394	1,357	1,319	1,282	1,252	1,234	1,233	1,252	1,291	1,346	1,377
Deferred Income Tax	1,431	1,499	1,004	1,385	1,604	1,379	864	475	157	(95)	(364)	(595)	(656)	(550)	(418)	(283)	(249)
Capital Expenditures	(8,607)	(8,506)	(8,408)	(8,252)	(7,852)	693	1,040	1,105	1,076	1,049	730	296	(247)	(840)	(1,432)	(1,779)	(2,023)
Free Cash Flow	(5,425)	(5,152)	(5,437)	(4,681)	(3,421)	3,912	4,352	4,216	3,959	3,833	3,467	2,976	2,484	2,094	1,735	1,628	1,514
PV of Cash Flows	(5,425)	(4,860)	(4,839)	(3,930)	(2,710)	2,924	3,068	2,804	2,484	2,269	1,936	1,568	1,234	982	767	679	596
Cumulative PV of Cash Flows	(5,425)	(10,285)	(15,125)	(19,055)	(21,764)	(18,841)	(15,773)	(12,969)	(10,485)	(8,216)	(6,280)	(4,712)	(3,478)	(2,496)	(1,729)	(1,050)	(454)
Payback Period (Count)	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
NPV @ 10 Years	(6,280)																
IRR @ 10 Years	-0 3%																
NPV @ 30 Years	10,770																
IRR @ 30 Years	9 9%																
Discounted Payback Period (Years)	17 2																
x **LED ASSUMPTIONS**																	
Non-Warranty O&M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LED O&M Expense ($000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Installations	10,844	10,789	10,741	10,699	10,662	1,499	1,496	1,493	1,492	1,491	1,491	1,492	1,494	1,497	1,500	1,505	1,511
Warranty Replacements	-	7	17	32	59	102	160	243	359	510	484	435	359	244	82	76	67
Non-Warranty Capital Repairs	-	-	-	-	-	-	-	-	-	-	507	1,121	1,833	2,621	3,458	3,893	4,231
LED Total Capex ($000)	**10,844**	**10,796**	**10,758**	**10,731**	**10,721**	**1,601**	**1,656**	**1,736**	**1,851**	**2,001**	**2,482**	**3,049**	**3,685**	**4,362**	**5,040**	**5,474**	**5,808**

LED Support																			
Beg LED Lights (000)			-	53 9	107 8	161 7	215 6	269 5	277	285	292	300	307	315	323	330	338	345	353
New LED Lights (000)			8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Converted from HPS (000)			46	46	46	46	46	-	-	-	-	-	-	-	-	-	-	-	-
End LED Lights (000)			54	108	162	216	269	277	285	292	300	307	315	323	330	338	345	353	361
Capital Materials ($/replacement)			141	138	135	133	130	127	125	122	120	117	115	113	111	108	106	104	102
Capital Labor ($/replacement)			60	62	64	66	68	70	72	74	76	79	81	83	86	89	91	94	97
Total Capital ($/replacement)			201	200	199	199	198	197	197	196	196	196	196	196	197	197	197	198	199
LED Failure Count (000)		Installed LEDs																	
	2018	54	-	0	0	0	0	1	1	1	2	2	3	3	4	4	4	4	4
	2019	54	-	-	0	0	0	0	1	1	1	2	2	3	3	4	4	4	4
	2020	54	-	-	-	0	0	0	0	1	1	1	2	2	3	3	4	4	4
	2021	54	-	-	-	-	0	0	0	0	1	1	1	2	2	3	3	4	4
	2022	54	-	-	-	-	-	0	0	0	0	1	1	1	2	2	3	3	4
	2023	8	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0
	2024	8	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0
	2025	8	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0
	2026	8	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
	2027	8	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
LED Failures (000)			-	0	0	0	1	1	2	3	5	6	9	11	13	16	18	20	22
Warranty Failures (capital labor only)																			
	2018		-	0	0	0	0	1	1	1	2	2	-	-	-	-	-	-	-
	2019		-	-	0	0	0	0	1	1	1	2	2	-	-	-	-	-	-
	2020		-	-	-	0	0	0	0	1	1	1	2	2	-	-	-	-	-
	2021		-	-	-	-	0	0	0	0	1	1	1	2	2	-	-	-	-
	2022		-	-	-	-	-	0	0	0	0	1	1	1	2	2	-	-	-
	2023		-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	-	-
	2024		-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	-
	2025		-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0
	2026		-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
	2027		-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
LED Warranty Failures (000)			-	0	0	0	1	1	2	3	5	6	6	5	4	3	1	1	1
O&M Expense per failure ($)			60 31	62 12	63 98	65 90	67 88	69 91	72 01	74 17	76 39	78 69	81 05	83 48	85 98	88 56	91 22	93 96	96 77

x **HPS ASSUMPTIONS**

HPS Avoided O&M Expense ($000)	**(2,632)**	**(2,711)**	**(2,805)**	**(3,070)**	**(3,997)**	**(2,483)**	**(3,443)**	**(3,752)**	**(3,910)**	**(4,163)**	**(4,520)**	**(4,800)**	**(4,977)**	**(5,129)**	**(5,283)**	**(5,442)**	**(5,605)**
New Installations	(1,169)	(1,197)	(1,225)	(1,255)	(1,285)	(1,316)	(1,347)	(1,380)	(1,413)	(1,447)	(1,482)	(1,518)	(1,554)	(1,592)	(1,631)	(1,670)	(1,711)
Capital Repairs	(1,068)	(1,093)	(1,125)	(1,224)	(1,584)	(978)	(1,349)	(1,461)	(1,514)	(1,603)	(1,730)	(1,827)	(1,884)	(1,930)	(1,977)	(2,025)	(2,074)
Avoided HPS Capex ($000)	**(2,237)**	**(2,290)**	**(2,350)**	**(2,479)**	**(2,869)**	**(2,294)**	**(2,696)**	**(2,841)**	**(2,927)**	**(3,050)**	**(3,212)**	**(3,345)**	**(3,438)**	**(3,522)**	**(3,608)**	**(3,695)**	**(3,785)**

HPS Support																	
Beg HPS Lights (000)	231	185	139	93	46	-	-	-	-	-	-	-	-	-	-	-	-
New HPS Lights (000)	-	-					-	-	-			-		-	-	-	-
Converted to LED (000)	(46)	(46)	(46)	(46)	(46)	-	-	-	-	-	-	-	-	-	-	-	-
End HPS Lights (000)	185	139	93	46	-	-	-	-	-	-	-	-	-	-	-	-	-
New HPS Light Installs, Avoided (000)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
Capital Materials ($/replacement)	93	95	97	99	101	103	105	107	110	112	114	116	119	121	123	126	128
Capital Labor ($/replacement)	60	62	64	66	68	70	72	74	76	79	81	83	86	89	91	94	97
Total Capital ($/replacement)	154	157	161	165	169	173	177	182	186	190	195	200	205	209	215	220	225
Avoided HPS O&M																	

Capitalized LED conversions (000)		46	46	46	46	46	-	-	-	-	-	-	-	-	-	-	-	-
Avoided failure of HPS base (000)																		
2018	54	-	-	0	3	13	22	13	3	3	13	22	13	3	3	13	22	13
2019	54	-	-	-	0	3	13	22	13	3	3	13	22	13	3	3	13	22
2020	54	-	-	-	-	0	3	13	22	13	3	3	13	22	13	3	3	13
2021	54	-	-	-	-	-	0	3	13	22	13	3	3	13	22	13	3	3
2022	54	-	-	-	-	-	-	0	3	13	22	13	3	3	13	22	13	3
2023	8	-	-	-	-	-	-	-	0	0	2	3	2	0	0	2	3	2
2024	8	-	-	-	-	-	-	-	-	0	0	2	3	2	0	0	2	3
2025	8	-	-	-	-	-	-	-	-	-	0	0	2	3	2	0	0	2
2026	8	-	-	-	-	-	-	-	-	-	-	0	0	2	3	2	0	0
2027	8	-	-	-	-	-	-	-	-	-	-	-	0	0	2	3	2	0
Avoided HPS Failures (000)		46	46	47	49	62	38	51	54	54	56	59	61	61	61	61	61	61
O&M Expense per failure ($)		66 89	68 89	70 96	73 09	75 28	77 54	79 87	82 26	84 73	87 27	89 89	92.59	95 36	98 23	101.17	104 21	107 33

2035	*2036*	*2037*	*2038*	*2039*	*2040*	*2041*	*2042*	*2043*	*2044*	*2045*	*2046*	*2047*	*2048*
17	*18*	*19*	*20*	*21*	*22*	*23*	*24*	*25*	*26*	*27*	*28*	*29*	*30*
41,958	44,109	46,253	48,283	50,062	51,538	52,691	53,565	54,242	54,820	55,410	56,117	57,029	58,165
2,151	2,145	2,030	1,779	1,476	1,153	874	677	578	589	708	911	1,137	1,363
44,109	46,253	48,283	50,062	51,538	52,691	53,565	54,242	54,820	55,410	56,117	57,029	58,165	59,529
(20,821)	(22,305)	(23,863)	(25,493)	(27,188)	(28,940)	(30,737)	(32,569)	(34,428)	(36,308)	(38,209)	(40,132)	(41,934)	(43,477)
23,288	23,948	24,420	24,569	24,350	23,751	22,828	21,673	20,392	19,101	17,909	16,897	16,231	16,052
(6,378)	(6,290)	(6,290)	(6,340)	(6,376)	(6,365)	(6,315)	(6,212)	(6,022)	(5,750)	(5,408)	(5,018)	(4,657)	(4,402)
16,910	17,658	18,130	18,229	17,974	17,386	16,513	15,461	14,370	13,351	12,500	11,879	11,574	11,650
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
5,773	5,946	6,125	6,308	6,498	6,693	6,893	7,100	7,313	7,533	7,759	7,991	8,231	8,478
(529)	(567)	(606)	(646)	(683)	(717)	(748)	(775)	(801)	(826)	(851)	(879)	(911)	(948)
5,244	5,379	5,518	5,663	5,815	5,975	6,146	6,325	6,512	6,707	6,907	7,112	7,320	7,530
5,244	5,379	5,518	5,663	5,815	5,975	6,146	6,325	6,512	6,707	6,907	7,112	7,320	7,530
(1,412)	(1,484)	(1,558)	(1,630)	(1,696)	(1,752)	(1,797)	(1,832)	(1,859)	(1,880)	(1,901)	(1,923)	(1,802)	(1,543)
3,832	3,895	3,960	4,033	4,119	4,224	4,348	4,493	4,653	4,827	5,007	5,189	5,517	5,987
(1,360)	(1,382)	(1,405)	(1,431)	(1,462)	(1,499)	(1,543)	(1,594)	(1,652)	(1,713)	(1,777)	(1,842)	(1,958)	(2,125)
2,472	2,513	2,555	2,602	2,657	2,725	2,805	2,898	3,002	3,114	3,230	3,347	3,559	3,862
2,472	2,513	2,555	2,602	2,657	2,725	2,805	2,898	3,002	3,114	3,230	3,347	3,559	3,862
1,412	1,484	1,558	1,630	1,696	1,752	1,797	1,832	1,859	1,880	1,901	1,923	1,802	1,543
(211)	(88)	1	49	36	(11)	(50)	(103)	(190)	(272)	(342)	(390)	(361)	(255)
(2,151)	(2,145)	(2,030)	(1,779)	(1,476)	(1,153)	(874)	(677)	(578)	(589)	(708)	(911)	(1,137)	(1,363)
1,522	1,764	2,084	2,502	2,913	3,312	3,678	3,951	4,093	4,132	4,081	3,969	3,864	3,787
565	618	689	780	857	919	963	976	954	908	846	776	713	659
112	730	1,418	2,198	3,055	3,975	4,937	5,913	6,867	7,775	8,621	9,398	10,111	10,770
0 20	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,517	1,525	1,533	1,543	1,553	1,565	1,577	1,591	1,606	1,622	1,639	1,657	1,676	1,697
52	30	-	-	-	-	-	-	-	-	-	-	-	-
4,458	4,561	4,565	4,403	4,192	3,961	3,776	3,675	3,674	3,785	4,004	4,311	4,642	4,975
6,028	**6,116**	**6,098**	**5,946**	**5,745**	**5,526**	**5,353**	**5,266**	**5,280**	**5,407**	**5,643**	**5,968**	**6,318**	**6,672**

361	368	376	383	391	399	406	414	421	429	437	444	452	459
8	8	8	8	8	8	8	8	8	8	8	8	8	8
-	-	-	-	-	-	-	-	-	-	-	-	-	-
368	376	383	391	399	406	414	421	429	437	444	452	459	467
100	98	96	94	92	90	89	87	85	83	82	80	78	77
100	103	106	109	112	116	119	123	126	130	134	138	142	146
200	201	202	203	204	206	208	209	211	213	216	218	221	223
4	4	4	3	3	3	3	3	3	4	4	4	4	4
4	4	4	4	3	3	3	3	3	3	4	4	4	4
4	4	4	4	4	3	3	3	3	3	3	4	4	4
4	4	4	4	4	4	3	3	3	3	3	3	4	4
4	4	4	4	4	4	4	3	3	3	3	3	3	4
1	1	1	1	1	1	1	0	0	0	0	0	0	0
0	1	1	1	1	1	1	1	0	0	0	0	0	0
0	0	1	1	1	1	1	1	1	0	0	0	0	0
0	0	0	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	0	0	0
23	23	23	22	21	19	18	18	17	18	19	20	21	22
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
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0	0	-	-	-	-	-	-	-	-	-	-	-	-
1	0	-	-	-	-	-	-	-	-	-	-	-	-
99 68	102 67	105 75	108 92	112 19	115 55	119 02	122 59	126 27	130 06	133 96	137 98	142 12	146 38
(5,773)	**(5,946)**	**(6,125)**	**(6,308)**	**(6,498)**	**(6,693)**	**(6,893)**	**(7,100)**	**(7,313)**	**(7,533)**	**(7,759)**	**(7,991)**	**(8,231)**	**(8,478)**
(1,752)	(1,795)	(1,839)	(1,883)	(1,929)	(1,976)	(2,025)	(2,074)	(2,125)	(2,177)	(2,231)	(2,285)	(2,342)	(2,399)
(2,125)	(2,176)	(2,229)	(2,284)	(2,339)	(2,396)	(2,455)	(2,515)	(2,577)	(2,640)	(2,705)	(2,771)	(2,839)	(2,909)
(3,877)	**(3,971)**	**(4,068)**	**(4,167)**	**(4,269)**	**(4,373)**	**(4,480)**	**(4,589)**	**(4,702)**	**(4,817)**	**(4,935)**	**(5,057)**	**(5,181)**	**(5,308)**
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
131	133	136	139	142	145	147	150	153	156	160	163	166	169
100	103	106	109	112	116	119	123	126	130	134	138	142	146
231	236	242	248	254	260	266	273	280	286	294	301	308	316

-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	3	13	22	13	3	3	13	22	13	3	3	13	22
13	3	3	13	22	13	3	3	13	22	13	3	3	13
22	13	3	3	13	22	13	3	3	13	22	13	3	3
13	22	13	3	3	13	22	13	3	3	13	22	13	3
3	13	22	13	3	3	13	22	13	3	3	13	22	13
0	0	2	3	2	0	0	2	3	2	0	0	2	3
2	0	0	2	3	2	0	0	2	3	2	0	0	2
3	2	0	0	2	3	2	0	0	2	3	2	0	0
2	3	2	0	0	2	3	2	0	0	2	3	2	0
0	2	3	2	0	0	2	3	2	0	0	2	3	2
61	61	61	61	61	61	61	61	61	61	61	61	61	61
110 55	113.87	117 29	120 80	124 43	128 16	132 01	135 97	140 05	144 25	148 57	153 03	157 62	162 35

Rows 3 300 Columns A BK

Notes

Row 3 must be the first year of your model if there s no spend in the first year just enter the capex as $0)

Bonus Depreciation Model
Enter data in colored cells ONLY

Book life must be a whole number (no decimals)
If you copy and paste the entire workbook but not the tab you may need adjust the pull down menu date location
The EBITDA rows and the Interest Expense rows do not need to be filled in for the deferred tax to be calculated correctly

Federal

Capital Expenditures	Year In Service	Asset Cost	Tax Life	Bonus Depr?	% Bonus	Book Life	Month on Books
2018 CapEx	2018	8,607	7	Yes	40%	29	Jul
2019 CapEx	2019	8,506	7	Yes	30%	29	Jul
2020 CapEx	2020	8,408	7	No	0%	29	Jul
2021 CapEx	2021	8,252	7	No	0%	29	Jul
2022 CapEx	2022	7,852	7	No	0%	29	Jul
2023 CapEx	2023	(693)	7	No	0%	29	Jul
2024 CapEx	2024	(1,040)	7	No	0%	29	Jul
2025 CapEx	2025	(1,105)	7	No	0%	29	Jul
2026 CapEx	2026	(1,076)	7	No	0%	29	Jul
2027 CapEx	2027	(1,049)	7	No	0%	29	Jul
2028 CapEx	2028	(730)	7	No	0%	29	Jul
2029 CapEx	2029	(296)	7	No	0%	29	Jul
2030 CapEx	2030	247	7	No	0%	29	Jul
2031 CapEx	2031	840	7	No	0%	29	Jul
2032 CapEx	2032	1,432	7	No	0%	29	Jul
2033 CapEx	2033	1,779	7	No	0%	29	Jul
2034 CapEx			7	No	0%	29	Jul
2035 CapEx			7	No	0%	29	Jul
2036 CapEx			7	No	0%	29	Jul
2037 CapEx			7	No	0%	29	Jul

Tax Rate 35 49% *Use the blended tax rates as provided by Tax*

Stand Alone

Annual Book Depreciation	148	443	735	1,022	1,300	1,423	1,394	1,357	1,319	1,282	1,252	1,234	1,233	1,252	1,291	1,346	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,229	934	642	355	77
Annual Tax Depreciation	4,181	4,667	3,563	4,925	5,818	5,310	3,829	2,696	1,761	1,014	227	(442)	(614)	(297)	112	549	675	528	434	373	324	223	79											
Annual Deferred Income Tax	(1,431)	(1,499)	(1,004)	(1,385)	(1,604)	(1,379)	(864)	(475)	(157)	95	364	595	656	550	418	283	249	301	335	356	374	410	461	489	489	489	489	489	489	436	331	228	126	27
Annual Asset in Service	8,607	8,506	8,408	8,252	7,852	(693)	(1,040)	(1,105)	(1,076)	(1,049)	(730)	(296)	247	840	1,432	1,779																		
Accumulated Book Depreciation	148	592	1,327	2,349	3,649	5,073	6,466	7,823	9,142	10,424	11,676	12,910	14,143	15,395	16,686	18,032	19,409	20,786	22,163	23,540	24,917	26,294	27,671	29,048	30,426	31,803	33,180	34,557	35,934	37,162	38,096	38,738	39,093	39,170
Accumulated Tax Depreciation	4,181	8,848	12,411	17,336	23,154	28,464	32,293	34,989	36,750	37,764	37,991	37,549	36,935	36,638	36,750	37,299	37,974	38,502	38,936	39,309	39,633	39,856	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935
Accumulated Deferred Income Tax	*(1,431)*	*(2,930)*	*(3,934)*	*(5,319)*	*(6,922)*	*(8,302)*	*(9,166)*	*(9,641)*	*(9,798)*	*(9,703)*	*(9,339)*	*(8,745)*	*(8,089)*	*(7,539)*	*(7,121)*	*(6,838)*	*(6,589)*	*(6,287)*	*(5,953)*	*(5,596)*	*(5,222)*	*(4,813)*	*(4,352)*	*(3,864)*	*(3,375)*	*(2,886)*	*(2,397)*	*(1,909)*	*(1,420)*	*(984)*	*(653)*	*(425)*	*(299)*	*(271)*
Accumulated Asset in Service	8,607	17,113	25,521	33,773	41,625	40,932	39,893	38,788	37,712	36,663	35,933	35,637	35,884	36,724	38,156	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935
Cash Tax Calculations																																		
EBITDA																																		
Tax Depreciation (MACRS & Bonus)	4,181	4,667	3,563	4,925	5,818	5,310	3,829	2,696	1,761	1,014	227	(442)	(614)	(297)	112	549	675	528	434	373	324	223	79											
Interest Expense																																		
Taxable Income (Loss)	(4,181)	(4,667)	(3,563)	(4,925)	(5,818)	(5,310)	(3,829)	(2,696)	(1,761)	(1,014)	(227)	442	614	297	(112)	(549)	(675)	(528)	(434)	(373)	(324)	(223)	(79)								-			
Total Cash Taxes Paid	(1,484)	(1,656)	(1,264)	(1,748)	(2,065)	(1,884)	(1,359)	(957)	(675)	(360)	(81)	157	218	105	(40)	(195)	(239)	(187)	(154)	(132)	(115)	(79)	(28)				-							
US GAAP Book Taxes																																		
EBITDA																																		
Book Depreciation (Straight Line)	148	443	735	1,022	1,300	1,423	1,394	1,357	1,319	1,282	1,252	1,234	1,233	1,252	1,291	1,346	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,229	934	642	355	77
Interest Expense																																		
Pre tax Income	(148)	(443)	(735)	(1,022)	(1,300)	(1,423)	(1,394)	(1,357)	(1,319)	(1,282)	(1,252)	(1,234)	(1,233)	(1,252)	(1,291)	(1,346)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,377)	(1,229)	(934)	(642)	(355)	(77)
Book Tax Provision	(53)	(157)	(261)	(363)	(461)	(505)	(495)	(481)	(468)	(455)	(444)	(438)	(438)	(444)	(458)	(478)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(436)	(331)	(228)	(126)	(27)
Deferred Income Taxes																																		
Cash Taxes Paid (Refunded)	(1,484)	(1,656)	(1,264)	(1,748)	(2,065)	(1,884)	(1,359)	(957)	(675)	(360)	(81)	157	218	105	(40)	(195)	(239)	(187)	(154)	(132)	(115)	(79)	(28)											
Book Tax Provision	(53)	(157)	(261)	(363)	(461)	(505)	(495)	(481)	(468)	(455)	(444)	(438)	(438)	(444)	(458)	(478)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(489)	(436)	(331)	(228)	(126)	(27)
Annual Deferred Taxes (Benefit)	(1,431)	(1,499)	(1,004)	(1,385)	(1,604)	(1,379)	(864)	(475)	(157)	95	364	595	656	550	418	283	249	301	335	356	374	410	461	489	489	489	489	489	489	436	331	228	126	27

DO NOT CHANGE ANYTHING BELOW THIS LINE

Federal

Book Depreciation Workbook

2018 CapEx																																		
Annual	**148**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**297**	**148**	**-**		**-**	
2019 CapEx																																		
Annual	147	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	147				
2020 CapEx																																		
Annual	**145**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**	**145**	**-**	**-**	**-**	
2021 CapEx																																		
Annual	142	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	142				
2022 CapEx																																		
Annual	**135**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**271**	**135**	**-**		**-**	
2023 CapEx																																		
Annual	(12)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(12)		-		
2024 CapEx																																		
Annual	**(18)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**	**(18)**		**-**		
2025 CapEx																																		

	Annual	(19)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(38)	(19)
2026 CapEx																															
	Annual	(19)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(37)	(19)
2027 CapEx																															
	Annual	(18)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(18)
2028 CapEx																															
	Annual	(13)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(13)
2029 CapEx																															
	Annual	(5)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(5)
2030 CapEx																															
	Annual	4	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	4
2031 CapEx																															
	Annual	14	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	14
2032 CapEx																															
	Annual	25	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	25
2033 CapEx																															
	Annual	31	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	31
2034 CapEx																															
	Annual																														

2035 CapEx									
	Annual								
2036 CapEx									
	Annual								
2037 CapEx									
	Annual								

Tax Depreciation Workbook

2018 CapEx									
	Annual	4,181	1,265	903	645	461	461	461	230
2019 CapEx									
	Annual	3,403	1,458	1,041	744	532	531	532	266
2020 CapEx									
	Annual	1,202	2,059	1,471	1,050	751	750	751	375
2021 CapEx									
	Annual	1,179	2,021	1,443	1,031	737	736	737	368
2022 CapEx									
	Annual	1,122	1,923	1,373	981	701	700	701	350
2023 CapEx									
	Annual	(99)	(170)	(121)	(87)	(62)	(62)	(62)	(31)
2024 CapEx									
	Annual	(149)	(255)	(182)	(130)	(93)	(93)	(93)	(46)
2025 CapEx									
	Annual	(158)	(271)	(193)	(138)	(99)	(99)	(99)	(49)
2026 CapEx									
	Annual	(154)	(263)	(188)	(134)	(96)	(96)	(96)	(48)
2027 CapEx									

	Annual	(150)	(257)	(183)	(131)	(94)	(94)	(94)	(47)
2028 CapEx									
	Annual	**(104)**	**(179)**	**(128)**	**(91)**	**(65)**	**(65)**	**(65)**	**(33)**
2029 CapEx									
	Annual	(42)	(73)	(52)	(37)	(26)	(26)	(26)	(13)
2030 CapEx									
	Annual	**35**	**61**	**43**	**31**	**22**	**22**	**22**	**11**
2031 CapEx									
	Annual	120	206	147	105	75	75	75	37
2032 CapEx									
	Annual	**205**	**351**	**250**	**179**	**128**	**128**	**128**	**64**
2033 CapEx									
	Annual	254	436	311	222	159	159	159	79
2034 CapEx									
	Annual		-	-	-	-	-		-
2035 CapEx									
	Annual								
2036 CapEx									
	Annual								
2037 CapEx									
	Annual								

Modified Accelerated Cost Recovery System (MACRS)

Half-Year Convention

	3	5	6	7	10	15	20	31 5	39
0	33 33%	20.00%	20 00%	14 29%	10 00%	5.00%	3 750%	1 720%	1 391%
1	44 45%	32 00%	16 00%	24 49%	18 00%	9 50%	7 219%	3 175%	2 564%
2	14 81%	19 20%	16 00%	17 49%	14 40%	8 55%	6 677%	3 175%	2 564%
3	7 41%	11 52%	16 00%	12 49%	11 52%	7 70%	6 177%	3 175%	2 564%
4		11 52%	16 00%	8 93%	9 22%	6 93%	5 713%	3 175%	2 564%
5		5 76%	16 00%	8 92%	7.37%	6 23%	5 285%	3 175%	2 564%
6				8 93%	6 55%	5 90%	4.888%	3 175%	2.564%
7				4 46%	6 55%	5 90%	4 522%	3 174%	2 564%
8					6 56%	5 91%	4 462%	3 175%	2 564%
9					6 55%	5 90%	4 461%	3 174%	2.564%
10					3 28%	5 91%	4 462%	3 175%	2 564%
11						5 90%	4 461%	3 174%	2.564%
12						5 91%	4 462%	3 175%	2 564%
13						5 90%	4 461%	3 174%	2 564%
14						5 91%	4 462%	3 175%	2 564%
15						2 95%	4 461%	3 174%	2 564%
16							4 462%	3 175%	2 564%
17							4 461%	3 174%	2 564%

12	Jan	100%
11	Feb	92%
10	Mar	83%
9	Apr	75%
8	May	67%
7	Jun	58%
6	Jul	50%
5	Aug	42%
4	Sep	33%
3	Oct	25%
2	Nov	17%
1	Dec	8%

Yes
No

18	4 462%	3 175%	2 564%
19	4 461%	3 174%	2.564%
20	2 231%	3 175%	2 564%
21		3 174%	2 564%
22		3 175%	2 564%
23		3 174%	2 564%
24		3 175%	2 564%
25		3 174%	2.564%
26		3 175%	2 564%
27		3 174%	2 564%
28		3 175%	2 564%
29		3 174%	2 564%
30		3 175%	2.564%
31		3 042%	2.564%
32			2 564%
33			2 564%
34			2 564%
35			2 564%
36			2 564%
37			2 564%
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(46)	(16)	21	58	95	125	143	144	125	86	31								
(16)	(6)	7	21	34	45	51	51	44	31	11								
39,123	39,107	39,127	39,186	39,280	39,406	39,549	39,693	39,818	39,904	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935
39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935
(288)	(294)	(286)	(266)	(232)	(188)	(137)	(86)	(41)	(11)			-						
39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935	39,935
															-			-
(46)	(16)	21	58	95	125	143	144	125	86	31								
46	16	(21)	(58)	(95)	(125)	(143)	(144)	(125)	(86)	(31)								-
16	6	(7)	(21)	(34)	(45)	(51)	(51)	(44)	(31)	(11)								
															-			
16	6	(7)	(21)	(34)	(45)	(51)	(51)	(44)	(31)	(11)								
(16)	(6)	7	21	34	45	51	51	44	31	11								

Rows 3 300, Columns A BC

Bonus Depreciation Model
Enter data in colored cells ONLY

Notes.
Row 8 must be the first year of your model if there is no spend in the first year just enter the capex as $0)
Book life must be a whole number (no decimals)
If you copy and paste the entire workbook but not the tab, you may need adjust the pull-down menu data location
The EBITDA rows and the Interest Expense rows do not need to be filled in for the deferred tax to be calculated correctly

Federal

Capital Expenditures	**Year In Service**	**Asset Cost**	**Tax Life**	**Bonus Depr?**	**% Bonus**	**Book Life**	**Month on Books**
2017 CapEx	2017		7	No	0%	29	Jul
2034 CapEx	2034	2,023	7	No	0%	29	Jul
2035 CapEx	2035	2,151	7	No	0%	29	Jul
2036 CapEx	2036	2,145	7	No	0%	29	Jul
2037 CapEx	2037	2,030	7	No	0%	29	Jul
2038 CapEx	2038	1,779	7	No	0%	29	Jul
2039 CapEx	2039	1,476	7	No	0%	29	Jul
2040 CapEx	2040	1,153	7	No	0%	29	Jul
2041 CapEx	2041	874	7	No	0%	29	Jul
2042 CapEx	2042	677	7	No	0%	29	Jul
2043 CapEx	2043	578	7	No	0%	29	Jul
2044 CapEx	2044	589	7	No	0%	29	Jul
2045 CapEx	2045	708	7	No	0%	29	Jul
2046 CapEx	2046	911	7	No	0%	29	Jul
2047 CapEx	2047	1,137	7	No	0%	29	Jul
2048 CapEx	2048	1,363	7	No	0%	29	Jul
2049 CapEx	2049		7	No	0%	29	Jul
2050 CapEx	2050	-	7	No	0%	29	Jul
2051 CapEx	2051	-	7	No	0%	29	Jul
2052 CapEx	2052		7	No	0%	29	Jul

Tax Rate 35 49% *Use the blended tax rates as provided by Tax*

Stand Alone

Annual Book Depreciation	35	107	181	253	319	375	420	455	482	503	523	546	574
Annual Tax Depreciation	289	803	1 187	1 444	1,576	1,642	1,655	1,543	1,324	1,113	937	823	786
Annual Deferred Income Tax	(90)	(247)	(357)	(423)	(446)	(450)	(438)	(386)	(299)	(216)	(147)	(98)	(75)
Annual Asset in Service	2 023	2,151	2,145	2,030	1,779	1,476	1,153	874	677	578	589	708	911
Accumulated Book Depreciation	35	142	323	576	894	1,269	1 689	2,144	2,625	3,129	3,652	4,198	4,772
Accumulated Tax Depreciation	289	1,092	2 279	3,723	5,299	6 941	8,596	10,138	11,462	12,575	13,513	14,336	15,122
Accumulated Deferred Income Tax	(90)	(337)	(694)	(1,117)	(1 563)	(2 013)	(2 451)	(2,837)	(3,136)	(3 353)	(3,499)	(3,598)	(3,673)
Accumulated Asset in Service	2,023	4,174	6,318	8,348	10 127	11,604	12 757	13,630	14,307	14,886	15,475	16,183	17,094
Cash Tax Calculations													
EBITDA													
Tax Depreciation (MACRS & Bonus)	289	803	1,187	1,444	1,576	1 642	1,655	1,543	1,324	1,113	937	823	786
Interest Expense													
Taxable Income (Loss)	(289)	(803)	(1 187)	(1,444)	(1 576)	(1,642)	(1,655)	(1,543)	(1,324)	(1,113)	(937)	(823)	(786)
Total Cash Taxes Paid	(103)	(285)	(421)	(513)	(559)	(583)	(587)	(547)	(470)	(395)	(333)	(292)	(279)
US GAAP Book Taxes													
EBITDA													
Book Depreciation (Straight Line)	35	107	181	253	319	375	420	455	482	503	523	546	574
Interest Expense													
Pre tax Income	(35)	(107)	(181)	(253)	(319)	(375)	(420)	(455)	(482)	(503)	(523)	(546)	(574)
Book Tax Provision	(12)	(38)	(64)	(90)	(113)	(133)	(149)	(161)	(171)	(179)	(186)	(194)	(204)
Deferred Income Taxes													
Cash Taxes Paid (Refunded)	(103)	(285)	(421)	(513)	(559)	(583)	(587)	(547)	(470)	(395)	(333)	(292)	(279)
Book Tax Provision	(12)	(38)	(64)	(90)	(113)	(133)	(149)	(161)	(171)	(179)	(186)	(194)	(204)
Annual Deferred Taxes (Benefit)	(90)	(247)	(357)	(423)	(446)	(450)	(438)	(386)	(299)	(216)	(147)	(98)	(75)

DO NOT CHANGE ANYTHING BELOW THIS LINE

Federal
Book Depreciation Workbook

2017 CapEx																														
Annual Depre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2034 CapEx																														
Annual Depre	35	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	35
2035 CapEx																														
Annual Depre	37	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	37

2036 CapEx																															
	Annual Depre	37	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	37
2037 CapEx																															
	Annual Depre	35	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	35
2038 CapEx																															
	Annual Depre	31	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	31
2039 CapEx																															
	Annual Depre	25	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	25
2040 CapEx																															
	Annual Depre	20	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	20
2041 CapEx																															
	Annual Depre	15	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	15
2042 CapEx																															
	Annual Depre	12	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	12
2043 CapEx																															
	Annual Depre	10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10
2044 CapEx																															
	Annual Depre	10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10
2045 CapEx																															
	Annual Depre	12	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	12
2046 CapEx																															
	Annual Depre	16	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	16
2047 CapEx																															
	Annual Depre	20	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	20

2048 CapEx																															
	Annual Depre	24	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	24
2049 CapEx																															
	Annual Depre				-										-	-	-	-									-	-		-	
2050 CapEx																															
	Annual Depre			-	-	-		-									-	-			-										-
2051 CapEx																															
	Annual Depre																														-
2052 CapEx																															
	Annual Depre																	-													

Tax Depreciation Workbook

2017 CapEx																															
	Annual Depre	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2034 CapEx																															
	Annual Depre	289	495	354	253	181	180	181	90		-	-	-	-											-						
2035 CapEx																															

	Annual Depre	307	527	376	269	192	192	192	96
2036 CapEx									
	Annual Depre	306	525	375	268	192	191	192	96
2037 CapEx									
	Annual Depre	290	497	355	254	181	181	181	91
2038 CapEx									
	Annual Depre	254	436	311	222	159	159	159	79
2039 CapEx									
	Annual Depre	211	362	258	184	132	132	132	66
2040 CapEx									
	Annual Depre	165	282	202	144	103	103	103	51
2041 CapEx									
	Annual Depre	125	214	153	109	78	78	78	39

2042 CapEx									
	Annual Depre	97	166	118	85	60	60	60	30
2043 CapEx									
	Annual Depre	83	142	101	72	52	52	52	26
2044 CapEx									
	Annual Depre	84	144	103	74	53	53	53	26
2045 CapEx									
	Annual Depre	101	173	124	88	63	63	63	32
2046 CapEx									
	Annual Depre	130	223	159	114	81	81	81	41
2047 CapEx									
	Annual Depre	162	278	199	142	102	101	102	51
2048 CapEx									
	Annual Depre	195	334	238	170	122	122	122	61
2049 CapEx									
	Annual Depre	-	-	-	-	-	-	-	-
2050 CapEx									
	Annual Depre								
2051 CapEx									
	Annual Depre	-	-	-	-	-		-	-
2052 CapEx									
	Annual Depre								

27

Modified Accelerated Cost Recovery System (MACRS)

Half-Year Convention

	3	5	6	7	10	15	20	31 5	39
0	33 33%	20 00%	20 00%	14 29%	10 00%	5 00%	3 750%	1 720%	1 391%
1	44 45%	32 00%	16 00%	24 49%	18 00%	9 50%	7 219%	3 175%	2 564%
2	14 81%	19.20%	16.00%	17 49%	14 40%	8 55%	6 677%	3 175%	2 564%
3	7 41%	11 52%	16 00%	12 49%	11.52%	7.70%	6.177%	3 175%	2 564%
4		11 52%	16 00%	8 93%	9.22%	6 93%	5.713%	3 175%	2 564%
5		5 76%	16 00%	8 92%	7 37%	6 23%	5 285%	3 175%	2.564%
6				8.93%	6.55%	5 90%	4,888%	3 175%	2.564%
7				4 46%	6 55%	5 90%	4 522%	3 174%	2 564%
8					6 56%	5 91%	4 462%	3 175%	2 564%
9					6 55%	5 90%	4 461%	3 174%	2 564%
10					3 28%	5,91%	4 462%	3 175%	2 564%
11						5 90%	4 461%	3 174%	2 564%
12						5 91%	4 462%	3 175%	2.564%
13						5 90%	4,461%	3 174%	2 564%
14						5 91%	4,462%	3 175%	2 564%
15						2,95%	4 461%	3 174%	2 564%
16							4 462%	3 175%	2 564%
17							4 461%	3 174%	2 564%
18							4 462%	3 175%	2 564%
19							4 461%	3 174%	2 564%
20							2 231%	3 175%	2 564%
21								3 174%	2 564%
22								3 175%	2 564%
23								3 174%	2 564%
24								3 175%	2 564%
25								3 174%	2,564%
26								3 175%	2 564%
27								3 174%	2 564%
28								3 175%	2 564%
29								3 174%	2 564%
30								3 175%	2 564%
31								3 042%	2 564%
32									2 564%
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37									2 564%
38									2 564%
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53									

12	Jan	100%
11	Feb	92%
10	Mar	83%
9	Apr	75%
8	May	67%
7	Jun	58%
6	Jul	50%
5	Aug	42%
4	Sep	33%
3	Oct	25%
2	Nov	17%
1	Dec	8%

Yes
No

Source:
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609	652	676	676	676	676	676	676	676	676	676	676	676	676	676	676	641	569	495	423	357	301	256
824	925	844	603	443	336	264	172	61	-													-
(76)	(97)	(60)	26	83	121	146	179	218	240	240	240	240	240	240	240	227	202	176	150	127	107	91
1,137	1,363	-							-				-					-				-
5 381	6,033	6,709	7,384	8,060	8,736	9,411	10,087	10 762	11,438	12 114	12,789	13 465	14,141	14,816	15,492	16,133	16,702	17,196	17,619	17 976	18,277	18 533
15,946	16,871	17,715	18 318	18,761	19 097	19,361	19 533	19,594	19 594	19,594	19 594	19,594	19,594	19,594	19,594	19,594	19,594	19,594	19 594	19,594	19,594	19 594
(3,750)	(3,846)	(3,906)	(3 881)	(3,798)	(3 677)	(3,531)	(3,352)	(3,134)	(2,894)	(2,655)	(2,415)	(2,175)	(1,935)	(1,696)	(1,456)	(1,228)	(1,026)	(851)	(701)	(574)	(467)	(377)
18,231	19,594	19 594	19,594	19,594	19,594	19,594	19,594	19,594	19,594	19,594	19,594	19,594	19 594	19,594	19 594	19,594	19,594	19,594	19,594	19,594	19 594	19,594
824	925	844	603	443	336	264	172	61							-			-				
(824)	(925)	(844)	(603)	(443)	(336)	(264)	(172)	(61)														-
(293)	(328)	(300)	(214)	(157)	(119)	(94)	(61)	(72)							-				-			
609	652	676	676	676	676	676	676	676	676	676	676	676	676	676	676	641	569	495	423	357	301	256
(609)	(652)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(676)	(641)	(569)	(495)	(423)	(357)	(301)	(256)
(216)	(231)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(227)	(202)	(176)	(150)	(127)	(107)	(91)
(293)	(328)	(300)	(214)	(157)	(119)	(94)	(61)	(22)			-											
(216)	(231)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(227)	(202)	(176)	(150)	(127)	(107)	(91)
(76)	(97)	(60)	26	83	121	146	179	218	240	240	240	240	240	240	240	227	202	176	150	127	107	91

[redacted]

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

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-04

QUESTION:

Please provide an analysis comparing the all-in costs of CEHE's services to a lighting customer with a non-LED installation versus an equivalent LED installation. Please include a breakout of the various components of cost to the customer, and perform the analysis at different wattage levels.

ANSWER:

An analysis comparing the all-in cost of a non-LED installation to an equivalent LED installation does not exist. However, a break out of the Capital and O&M cost by lamp type at the various wattage levels is shown in WP- Streetlight Rate Design tab SLS Rate Design.

SPONSOR (PREPARER):
Matthew Troxle/Julienne Sugarek (Matthew Troxle/Julienne Sugarek)

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-05

QUESTION:

Please refer to CenterPoint's FERC Forms 1 as filed on the record in Docket No. 35588. Please explain why CenterPoint's request for FERC Account No. 925, Injuries and Damages, is so much greater for the test year than for 2017 and 2016 as reported on CenterPoint's FERC Forms 1.

ANSWER:

Please refer to GCCC02-30(c) and PUC09-08.

SPONSOR (PREPARER):
Kristie Colvin/Rebecca Demarr/Robert McRae (Kristie Colvin/Rebecca Demarr/Robert McRae)

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-06

QUESTION:

Please provide CenterPoint's amount for *FERC Account No. 925, Injuries and Damages, for calendar year 2019 through April 30, 2019.*

ANSWER:

CenterPoint Houston's amount for FERC account number 9250 for March 31, 2019 year to date is $4,804,781.63.

The FERC ledger has not closed for April 2019. CenterPoint Houston will provide an update after the FERC ledger closes for April 2019.

SPONSOR (PREPARER):
Kristie Colvin (Kristie Colvin)

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-07

QUESTION:

Please provide a schedule detailing the composition of the amounts for *FERC Account No. 925, Injuries and Damages*, included in CenterPoint's test-year amount of $22,845,000 and included in the amount of $2,317,000 that CenterPoint removed in its adjustment to *FERC Account No. 925*.

ANSWER:

Please see PUC09-08 attachment "PUC09-08 Attachment 1.xlsx" for the composition of the $22,845,000.

Please see WP II-D-2 and related WPs for Injuries & Damages adjustments:

WP II-D-2 Adj 1 Energy Efficiency	$ (2,967)
WP II-D-2 Adj 2 Transportation Depreciation	$ (113)
WP II-D-2 Adj 4 Affiliate Wages	$ 131,993
WP II-D-2 Adj 5 Direct Wages	$ 847,873
WP II-D-2 Adj 8 Employee Expense	$ (389)
WP II-D-2 Adj 10 Workers' Compensation	$ (348,388)
WP II-D-2 Adj 12 Auto & General Reserve	$ (2,945,349)
Total	**$ (2,317,340)**

SPONSOR (PREPARER):
Kristie Colvin (Kristie Colvin)

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864

PUBLIC UTILITY COMMISSION OF TEXAS
REQUEST NO.: PUC09-08

QUESTION:

Please refer to CenterPoint's *FERC Forms 1* as filed on the record in *Docket No. 35588.* Please explain the significant upward trend in expenses in *FERC Account No. 925, Injuries and Damages,* since CenterPoint's last test-year of calendar year 2009 in *Docket No. 38339* (trending upward from $4.8 million for 2010 to now $22.8 million for 2018 as reported on *FERC Forms 1).* Please also provide amounts showing the data by sub-account and an explanation for the significant upward trend by sub-account.

ANSWER:

Please see PUC09-08 Attachment 1.xlsx for FERC Account 9250 Injuries & Damages by General Ledger Accounts from 2010 to 2018.

The increase in amounts recorded to FERC Account 9250 from 2010 to 2018 is primarily due to an increase in insurance costs resulting from higher general liability and workers compensation claims. Insurance reserves are periodically trued-up as a result of studies performed by outside actuarial firms. Please reference page 63 of Exhibit KLC-05 for historical General Liability Ultimate Loss amounts and page 27 of Exhibit KLC-04 for historical Workers Compensation Retained Ultimate Loss amounts. Insurance reserves are not necessarily recorded in the accident year of a claim. In addition to insurance reserves, costs for legal representation related to general liability claims also increased.

FERC Account 9250 also saw an increase due to reassignment of FERC accounts. CenterPoint Houston periodically reviews FERC assignments by cost center for updates and implements changes as required. Certain costs moved into FERC Account 9250, including costs related to administration of claims, which were previously included in FERC Account 9302.

SPONSOR (PREPARER):
Kristie Colvin/Rebecca Demarr/Robert McRae (Kristie Colvin/Rebecca Demarr/Robert McRae)

RESPONSIVE DOCUMENTS:
PUC09-08 Attachment 1.xlsx

CenterPoint Houston
FERC Account No. 9250 Injuries & Damages
2010-2018

Lead column	2010	2011	2012	2013	2014	2015	2016	2017	2018
515040 Sal&Wages Exp-Bonus/Inc-Exempt									123,002 75
515042 Sal&Wages Exp-Bonus/Inc-Non-Exempt									4,165 61
515044 Sal&Wages Exp-Bonus/Incentive-Union									32,124 16
515050 Sal&Wages Exp-Non-prod Time-Exempt									168,396 31
515052 Sal&Wages-Non-prod Time-Non-Exempt									12,293 32
515054 Sal&Wages Exp-Non-prod Time-Union									212,586 33
517988 Sal&Wages Exp-Other Comp-Union									3,447 00
517989 Sal&Wages Exp-Overtime Union - Double									121,541 10
517990 Sal&Wages Exp-Overtime Union (1 5)									46,505 64
517991 Sal&Wages Exp-Regular Union									825,597 69
517992 Sal&Wages Exp-Other Comp-Non-Exempt									205 50
517995 Sal&Wages Exp-Regular Non-Exempt									70,797 34
517996 Sal&Wages Exp-Other Comp-Exempt									11,116 58
517999 Sal&Wages Exp-Regular Exempt									928,490 71
518130 Sal/Burden Exp-Workers Compensation	(653,477 42)	105,594 08	572,078 62	3,834,409 37	1,785,813 76	1,371,375 79	40,012 33	2,545,608 39	1,611,706 49
521989 Sal/Burden Exp-Non-exempt PRB						(2,636 13)	(3,146 01)	(3,441 00)	(3,866 09)
521990 Sal/Burden Exp-Non-exempt OT PRB						(123 98)	(84 19)	(115 82)	(176 11)
521991 Sal/Burden Exp-Union OT PRB						(2,302 38)	(2,180 03)	(2 070 01)	(2,323 02)
521992 Sal/Burden Exp-Union DT PRB						(425 97)	(611 55)	(3 425 72)	(1,360 91)
521994 Sal/Burden Exp-Union						(16,564 99)	(19,771 41)	(19 119 92)	(19,946 19)
521999 Sal/Burden Exp-Payroll Burden						(14,646 28)	(17 427 36)	(17,718 61)	(18,405 16)
522010 Employ Rel Exp-Employee Travel									9,170 44
522020 Employ Rel Exp-Training									2,562 33
522030 Employ Rel Exp-Registration									158 50
522060 Employ Rel Exp-Bus Meals									13,928 90
522062 Employ Rel Exp-Bus Entertainment									115 52
522080 Employ Rel Exp-Park/In-town Travel									19,432 18
522110 Employ Rel Exp-Occ Health / Safety									2 652 23
522120 Employ Rel Exp-Books & Subscript									69 98
522130 Employ Rel Exp-Miscellaneous									664 08
523000 Employ Rel Exp-Reimburse/Deductions									(876 56)
530010 M&S Exp - Non-Inventory									47,624 22
530999 M&S Expenses - Inventory Issued									71,922 37
533010 M&S Exp-Computer Hardware									2,220 48
533020 M&S Exp-Computr Softwr & Upgrades									1,069 92
535010 M&S Exp-Office Supplies									690 59
543010 Contr&Svcs Exp-Prof Svcs-Ded									6,185 57
543090 Contr&Svcs Exp-Wireless Services									3,653 60
546010 Contr&Svcs Exp-Other Services									12,658 96
550041 Courier Expense									42 90
559964 A&G Exp - Deferred Other Exp	257 50								
560020 Claims/Settlements	(364,202 08)	(322,140 41)	(338,896 15)	(432,460 61)	(530,944 89)	810,368 57	300,941 46	140,716 44	167,373 49
560070 Insurance Exp-Excess Liability	2,911,484 87	3,292,849 22	3,525,358 61	3,751,444 14	5,569,670 37	8,798,933 57	8 961,700 57	8,454 453 49	8,370,654 37
560090 Insurance Exp-General Liability	2,750 430 46	2,811,920 91	3,471,111 77	6,483,421 35	9,808,789 40	7,602,478 80	453,505 74	3 489 063 42	9 270,204 90
560100 Insurance Exp-Auto Liability	151,587 83	823,346 25	179,790 54	245,022 97	581,640 96	732 768 24	538,317 78	372,494 16	939,195 87
560115 Insurance Exp-Other	3,393 00	2,620 00	2,839 00	2,679 00	13,693 22	12,440 22	3,248 00	7 686 00	36,768 61
560120 Insurance Exp-Umbrella Liability	89,736 00	89 736 16	89,736 00	89,736 00	75,070 98	112,216 20	119,230 73	98,415 78	41,998 20
565010 Repairs and Maintenance Expenses									815 00
572025 Rental Exp-Office Equipment									1,168 05
621016 Fleet Maintenance									1 709 58
621017 Fleet Adjustments, Damages, Modification									2,073 06
642071 Fleet Allocation									101 81
642074 Construction Overhead						(79,913 92)	(96,170 07)	(93 132 90)	(101,346 70)
642137 Safety & Training Billings									(1,144,611 40)
642142 Fleet GPS									191 94
643001 Union Labor Straight Time-Int Act Alloc						(54,526 80)	(67,997 25)	(68 540 73)	(922 023 27)
643002 UnionLabor 1 1/2-Internal Activity Alloc						(13,253 23)	(13,283 42)	(13 785 53)	(58,187 63)

Lead column	2010	2011	2012	2013	2014	2015	2016	2017	2018
643003 Union Labor-Dbl Time-Internal Act Alloc						(19,346 36)	(18,817 84)	(40 448 45)	(153,123 25)
643101 Labor Straight Time-NonExempt						(375 09)	(313 51)	(599 92)	(139 65)
643102 Labor 1 1/2-NonExempt						(52 60)	(54 57)	(705 16)	(39 03)
643112 Labor - Drive Time - NonExempt								(86 28)	(1 12)
643201 Labor Straight Time-Exempt						(4,475 92)	(3,299 25)	(6,366 18)	(25,113 95)
643202 Labor 1 1/2-Exempt						(235 49)	(107 92)	(4,354 04)	(710 81)
643501 Fleet Fuel									196 16
646383 Claims - Regulated Operations				1,348,628 50	1,246,249 58	1 504 727 47	1,914,510 05	2,116,461 85	2,096,553 52
702050 Depreciation Exp-Transportation									1,165 11
* 9250 Injuries & Damages									22,844,718 12
** **Functional area**	**4,889,210.16**	**6,803,926.21**	**7,502,018.39**	**15,322,880.72**	**18,549,983.38**	**20,736,429.72**	**12,088,202.28**	**16,950,989.26**	**22,844,718.12**

CERTIFICATE OF SERVICE

I hereby certify that on this 28th day of May 2019, a true and correct copy of the foregoing document was served on all parties of record in accordance with 16 Tex. Admin. Code § 22.74.