

**BEFORE THE**  
**WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND	)	DOCKETS UE-160228 and
TRANSPORTATION COMMISSION	)	UG-160229 ( <i>Consolidated</i> )
	)	
Complainant,	)	
	)	
v.	)	
	)	
AVISTA CORPORATION d/b/a	)	
AVISTA UTILITIES	)	
	)	
Respondent.	)	

---

**EXHIBIT NO. BGM-3**  
**ELECTRIC ATTRITION ALLOWANCE MODEL**  
**August 17, 2016**

**WASHINGTON ELECTRIC ATTRITION ALLOWANCE STUDY**

Calculation of Attrition Allowance Revenue Requirement

Test Period: Twelve Months Ending September 30, 2015

(000's of Dollars)

<b>Line No.</b>	<b>Description</b>	<b>(a) Attrition Allowance Balances</b>	<b>(b) Revenue Growth Factor</b>	<b>(c) Attrition Allowance Study Results</b>
1	2017 Rate Base	\$ 1,341,164	1.015632	\$ 1,320,522
2	Proposed Rate of Return			<u>7.25%</u>
3	Net Operating Income Requirement			\$ 95,738
4	2017 Net Operating Income (at 2016 rates)	<u>\$ 99,647</u>	1.015632	<u>\$ 98,113</u>
5	2017 Rate of Return (at 2016 rates)			7.43%
6	2017 Net Operating Income Deficiency (Surplus)			\$ (2,375)
7	Gross-up Conversion Factor			0.61986
8	2017 Attrition Allowance Revenue Deficiency			<b>\$ (3,832)</b>
9	2017 Total General Business Revenues (at 2016 rates)			\$ 502,803
10	Attrition Allowance 2017 Revenue Requirement			<b>\$ 498,971</b>
11	Percent Revenue Requirement Change (vs. 2016)			<b>-0.76%</b>

**Cost of Capital**

Washington - Electric System  
Twelve Months Ending September 30, 2015

<b>Capital Structure</b>			
<u>Component</u>	<u>Capital Structure</u>	<u>Cost</u>	<u>Weighted Cost</u>
Total Debt	51.50%	5.51%	2.84%
Common	48.50%	9.10%	4.41%
Total	<u>100.00%</u>		<u>7.25%</u>

**Revenue Conversion Factor**

Washington - Electric System  
Twelve Months Ending September 30, 2015

<u>Line No.</u>	<u>Description</u>	<u>Factor</u>
1	<b>Revenues</b>	1.000000
	<b>Expense:</b>	
2	Uncollectibles	0.005855
3	Commission Fees	0.002000
4	Washington Excise Tax	0.038507
5	Total Expense	<u>0.046363</u>
6	Net Operating Income Before FIT	0.953637
7	Federal Income Tax @ 35%	<u>0.333773</u>
8	<b>REVENUE CONVERSION FACTOR</b>	<u>0.619864</u>

**2017 ELECTRIC ATTRITION ALLOWANCE REVENUE REQUIREMENT CALCULATION**

Line No.	Description	Establish Attrition Base					Escalation Rate	Escalation Amounts		Add Back Power Costs		Results 2017 Results: [J]+[K]+[L] = [O]
		12ME 09.2015 AMA Commission Basis Report Totals <sup>1</sup>	(less) 09.2015 Normalized Net Power Supply Cost	Deferred Dr/Cr; Reg. Amorts & Misc Adjs	Pro Forma Revenue Normalization Adjustment	9.2015 AMA Escalation Base		Non-Energy Cost Escalation Amount [G]*[H]=[I]	Trended 2017 Non-Energy Cost [G]+[I]=[J]	2017 Pro- Formed Net Energy Cost	Power Cost Incremental Load	
		[A]	[B]	[C]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[O]
<b>REVENUES</b>												
1	Total General Business	\$ 499,323			\$ (5,179)	\$ 494,144	1.56%	\$ 7,724	\$ 501,868			501,868
2	Interdepartmental Sales	920			-	920	1.56%	14	934			934
3	Sales for Resale	65,944	(65,944)		-	-				37,211	(2,489)	34,722
4	Subtotal: Sales of Electricity	566,187	(65,944)		(5,179)	495,064		7,739	502,803	37,211	(2,489)	537,525
5	Other Revenue	12,625	(11,316)		1,882	3,191	0.00%	-	3,191	11,833	-	15,024
6	Total Electric Revenue	578,812	(77,260)	-	(3,297)	498,255		7,739	505,994	49,044	(2,489)	552,549
<b>EXPENSES</b>												
7	<b>Production and Transmission</b>											
8	Operating Expenses <sup>2</sup>	128,239	(77,563)	459	-	51,135	-1.61%	(823)	50,312	80,314	(196)	130,430
9	Purchased Power	96,496	(96,496)		-	-		-	-	70,369	827	71,196
10	Depreciation/Amortization	24,379			-	24,379	-0.09%	(22)	24,357	-		24,357
11	Regulatory Amortization	6,584		(1,753)	-	4,831	0.00%	-	4,831	-		4,831
12	Taxes	13,712			-	13,712	12.28%	1,684	15,396			15,396
13	Subtotal: Production and Transmission	269,410	(174,059)	(1,294)	-	94,057		839	94,896	150,683	631	246,210
14	<b>Distribution</b>											
15	Operating Expenses <sup>2</sup>	22,960			-	22,960	9.07%	2,082	25,042			25,042
16	Depreciation/Amortization	24,945			-	24,945	12.32%	3,073	28,018			28,018
17	Regulatory Amortizations	-			-	-		-	-			-
18	Taxes	27,516			(199)	27,317	10.01%	2,734	30,051		297	30,349
19	Subtotal: Distribution	75,421	-	-	(199)	75,222		7,890	83,112	-	297	83,410
20	<b>Customer Accounting</b>											
21	Customer Service & Information	11,631			(30)	11,601	9.44%	1,095	12,696		45	12,741
22	Sales Expenses	1,519			-	1,519	0.00%	-	1,519			1,519
23	<b>Administrative &amp; General</b>											
24	Operating Expenses <sup>2</sup>	49,261		(952)	(10)	48,299	2.81%	1,357	49,656		15	49,671
25	Depreciation/Amortization	20,268			-	20,268	19.26%	3,904	24,172			24,172
26	Taxes	-			-	-		-	-			-
27	Subtotal: A&G	69,529	-	(952)	(10)	68,567		5,261	73,827	-	15	73,843
28	Total Electric Expenses	427,510	(174,059)	(2,246)	(239)	250,966		15,085	266,050	150,683	989	417,722
29	OPERATING INCOME BEFORE FIT	151,302	96,799	2,246	(3,058)	247,289		(7,346)	239,943	(101,639)	(3,478)	134,826

**2017 ELECTRIC ATTRITION ALLOWANCE REVENUE REQUIREMENT CALCULATION**

<b>\$000s</b>		<b>Establish Attrition Base</b>					<b>Escalation Rate</b>	<b>Escalation Amounts</b>		<b>Add Back Power Costs</b>		<b>Results</b>
		12.2014 Commission Basis Report Restated Totals <sup>1</sup>	(less) 09.2015 Normalized Net Power Supply Cost	Deferred Dr/Cr; Reg. Amorts & Misc Adjs	Pro Forma Revenue Normalization Adjustment	9.2015 AMA Escalation Base		Non-Energy Cost Escalation Amount [G]*[H]=[I]	Trended 2017 Non-Energy Cost [G]+[I]=[J]	2017 Pro-Formed Net Energy Cost	Power Cost Incremental Load	2017 Results: [J]+[K]+[L] = [O]
<u>Line No.</u>	<u>Description</u>	[A]	[B]	[C]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[O]
31	Federal Income Tax											
32	Current Accrual	\$ (2,975)	\$ 33,880	\$ 786	\$ (1,070)	\$ 30,621		\$ (2,571)	\$ 28,050	\$ (35,574)	\$ (1,217)	\$ (8,741)
33	Debt Interest	(54)	-	140	-	86		(826)	(740)			(740)
34	Deferred Income Taxes	44,788				44,788			44,788			44,788
35	Amortized ITC - Noxon	(128)				(128)			(128)			(128)
36	NET OPERATING INCOME	109,671	62,919	1,320	(1,988)	171,922		(3,949)	167,973	(66,065)	(2,261)	99,647
37	RATE BASE											
38	Plant in Service											
39	Intangible	132,877		-	-	132,877	2.17%	2,883	135,760			135,760
40	Production	762,834		-	-	762,834	0.64%	4,882	767,716			767,716
41	Transmission	390,240		-	-	390,240	8.99%	35,083	425,323			425,323
42	Distribution	880,960		-	-	880,960	11.88%	104,658	985,618			985,618
43	General	207,659		-	-	207,659	20.47%	42,508	250,167			250,167
44	Subtotal: Plant in Service	2,374,570	-	-	-	2,374,570		190,014	2,564,584			2,564,584
45	Accumulated Depreciation and Amortization											-
46	Intangible	(23,450)		-	-	(23,450)	2.17%	(509)	(23,959)			(23,959)
47	Production	(334,622)		-	-	(334,622)	0.64%	(2,142)	(336,764)			(336,764)
48	Transmission	(126,839)		-	-	(126,839)	8.99%	(11,403)	(138,242)			(138,242)
49	Distribution	(268,267)		-	-	(268,267)	11.88%	(31,870)	(300,137)			(300,137)
50	General	(70,794)		-	-	(70,794)	20.47%	(14,492)	(85,286)			(85,286)
51	Subtotal: Accumulated Depreciation and Amortization	(823,972)	-	-	-	(823,972)		(60,415)	(884,387)			(884,387)
52	Net Plant	1,550,598	-	-	-	1,550,598		129,599	1,680,197			1,680,197
53	Deferred Taxes	(300,583)		-	-	(300,583)	29.65%	(89,123)	(389,706)			(389,706)
54	Net Plant After Deferred taxes	1,250,015	-	-	-	1,250,015		40,476	1,290,491			1,290,491
55	Deferred Debits and Credits	8,204		(6,302)		1,902			1,902			1,902
56	Working Capital	56,566		(7,795)		48,771			48,771			48,771
57	Less: Plant Not Used and Useful											-
58	TOTAL RATE BASE	1,314,785	-	(14,097)	-	1,300,688		40,476	1,341,164			1,341,164
59	RATE OF RETURN	8.34%										7.43%
60	<b>ATTRITION ALLOWANCE REVENUE REQUIREMENT</b>											
61	Proposed Rate of Return											7.25%
62	Return on Plant in Service at Proposed Rate											\$ 97,234
63	Operating Income Deficiency											\$ (2,413)
64	Revenue Conversion Factor											0.61986
65	Revenue Requirement											\$ (3,892)
66	Revenue Growth Factor											1.015632
67	Attrition Allowance Revenue Requirement											<b>\$ (3,832)</b>

**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Production & Transmission O&M Expense**

*Selected trend period highlighted green and displayed as green dots in figure*

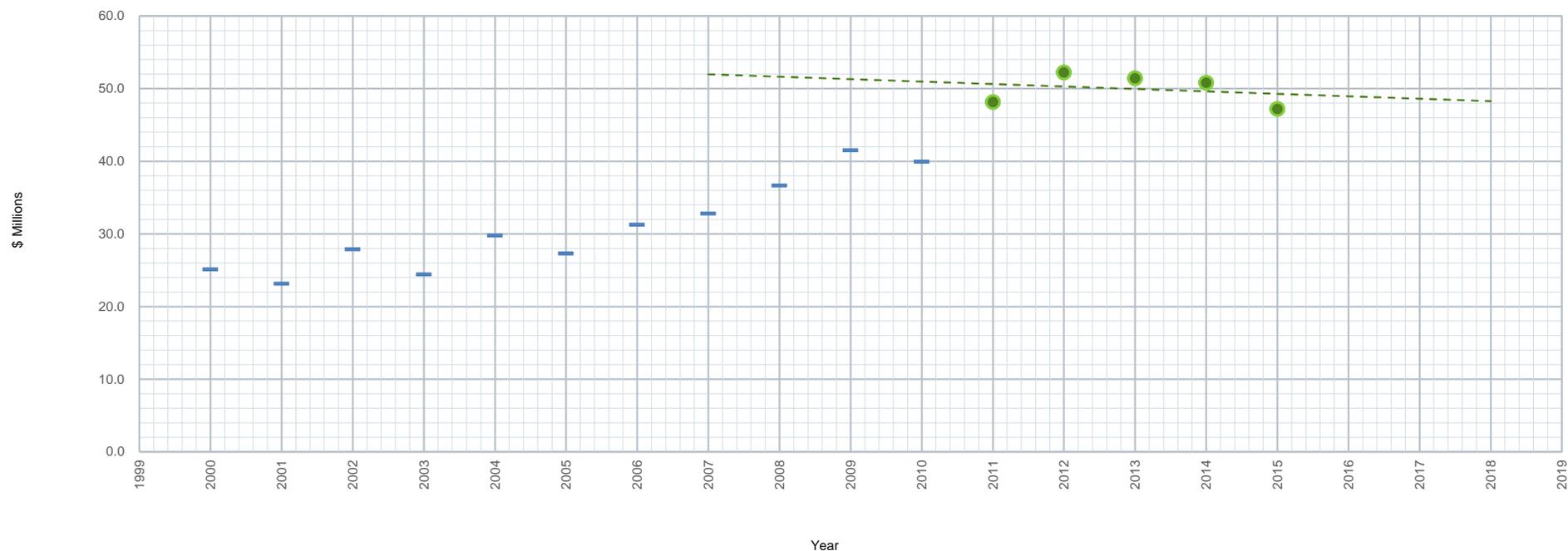
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
P/T Operations Expense	78,721	47,157	101,475	132,098	101,545	105,374	104,260	102,890	117,123	87,599	147,107	145,634	131,795	143,904	120,307	128,239
Less: Power Supply	(53,596)	(24,026)	(73,610)	(107,691)	(71,757)	(78,074)	(72,978)	(70,079)	(80,476)	(46,101)	(107,172)	(97,441)	(79,551)	(92,437)	(69,474)	(81,026)
<b>Total Production &amp; Transmission O&amp;M Expense</b>	<b>25,125</b>	<b>23,131</b>	<b>27,865</b>	<b>24,407</b>	<b>29,788</b>	<b>27,300</b>	<b>31,282</b>	<b>32,811</b>	<b>36,647</b>	<b>41,498</b>	<b>39,935</b>	<b>48,193</b>	<b>52,244</b>	<b>51,467</b>	<b>50,833</b>	<b>47,213</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	(337)
R -Squared of Best-Fit	0.06005
Annual Growth Rate (% of 2015)	-0.71%
2.25-year Growth Rate	<b>-1.61%</b>

**Narrative**

Over the most recent four years (2011 through 2015), production and transmission O&M has remained relatively flat. The recent trend appears to be similar to the trend that was experienced over the period 2000 through 2005, in which little to no growth in production and transmission O&M was experienced. Between 2010 and 2011, there was an unexplained increase in production and transmission O&M expense. The Company has not explained the cause of this increase, and therefore, it is not known whether a similar increase should be expected in future periods. Because the cause of the increase in production and transmission O&M between 2010 and 2011 is not known and appears to be related to a one-time event, I viewed it to be less appropriate to include that increase in the historical trend calculation. In addition, the recent flat trend in this category of expense is an indication that the Company has been able to control this expense and should be able to control it in future periods. Finally, low inflationary pressure is another reason why it is probably a better assumption to assume that this category of cost will remain relative stable into the future. Thus, my model calculates the trend using the most recent four-year period, in which production and transmission O&M expenses have declined slightly.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Production & Transmission Depreciation Expense**

*Selected trend period highlighted green and displayed as green dots in figure*

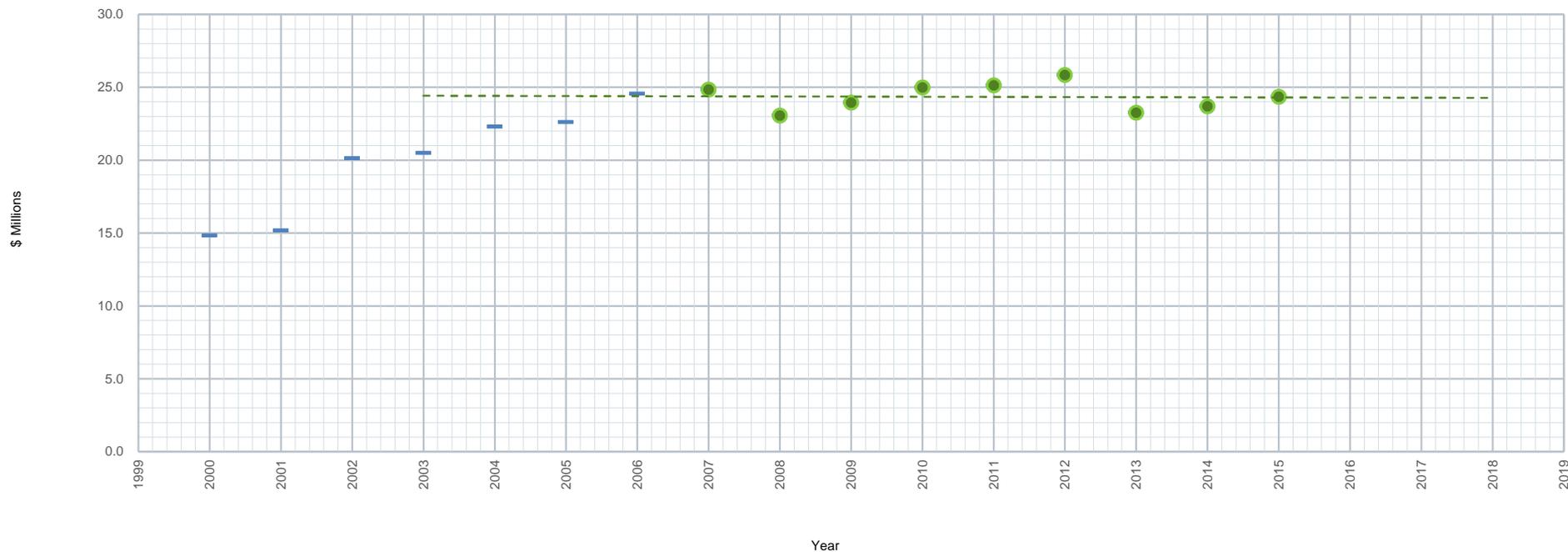
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
P/T Depreciation (per CBR)	(3,114)	9,152	13,808	14,915	22,879	13,812	25,745	21,795	22,000	22,266	22,129	25,158	25,872	23,284	23,715	24,379
Less: Reg. Amort. in Hist. P/T Depr.	17,964	6,050	6,349	5,608	(567)	8,817	(1,168)	3,082	1,076	1,703	2,879					
<b>Total Production &amp; Transmission Depreciation Expense</b>	<b>14,850</b>	<b>15,202</b>	<b>20,157</b>	<b>20,523</b>	<b>22,312</b>	<b>22,629</b>	<b>24,577</b>	<b>24,877</b>	<b>23,076</b>	<b>23,969</b>	<b>25,008</b>	<b>25,158</b>	<b>25,872</b>	<b>23,284</b>	<b>23,715</b>	<b>24,379</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	(10)
R -Squared of Best-Fit	0.00081
Annual Growth Rate (% of 2015)	-0.04%
2.25-year Growth Rate	<b>-0.09%</b>

**Narrative**

Production and transmission depreciation expense have been markedly flat over the period 2006 to the present. Accordingly, my model uses the Company's escalation period of 2007 through 2015.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Production & Transmission Taxes Other Than Income Taxes**

*Selected trend period highlighted green and displayed as green dots in figure*

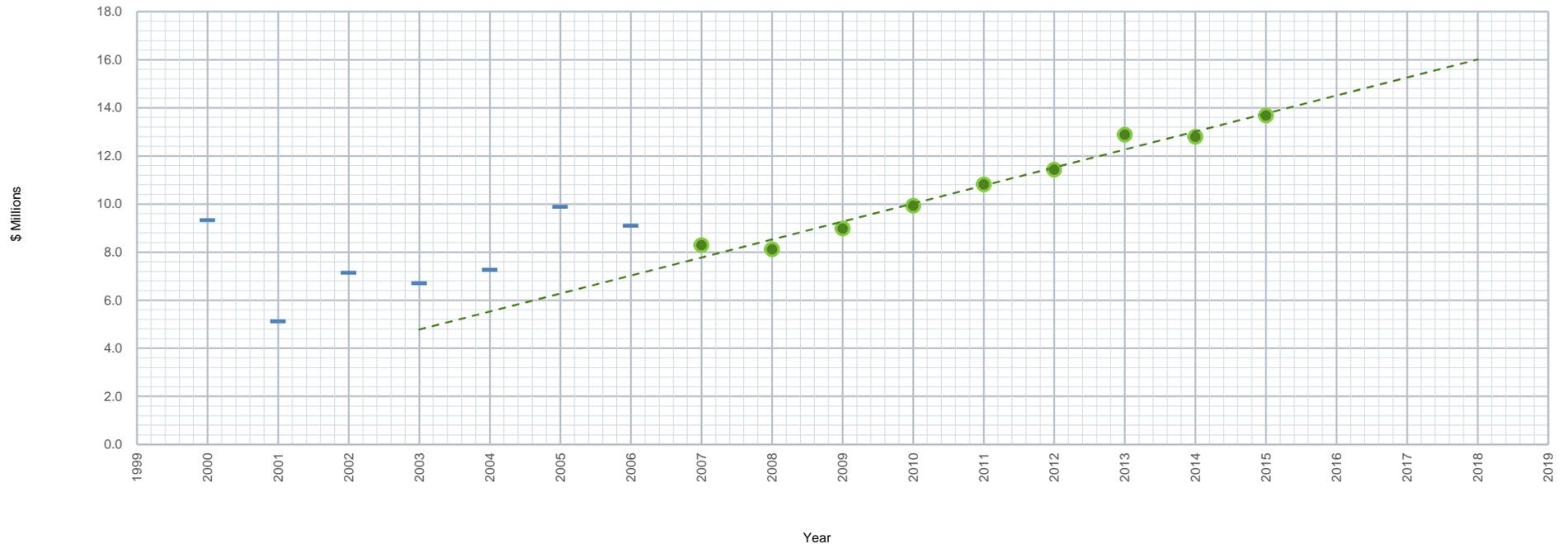
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
P/T Taxes	9,346	5,139	7,164	6,722	7,283	9,900	9,115	8,319	8,146	9,014	9,955	10,846	11,456	12,913	12,828	13,712
<b>Total Production &amp; Transmission Taxes Other Than Income Taxes</b>	<b>9,346</b>	<b>5,139</b>	<b>7,164</b>	<b>6,722</b>	<b>7,283</b>	<b>9,900</b>	<b>9,115</b>	<b>8,319</b>	<b>8,146</b>	<b>9,014</b>	<b>9,955</b>	<b>10,846</b>	<b>11,456</b>	<b>12,913</b>	<b>12,828</b>	<b>13,712</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	749
R-Squared of Best-Fit	0.97205
Annual Growth Rate (% of 2015)	5.46%
2.25-year Growth Rate	<b>12.28%</b>

**Narrative**

Production and transmission tax expense other than income taxes have increased fairly consistently in the recent period 2007 through 2015. Because the amount of net production plant has remained relatively flat for nearly ten years, however, it is not necessarily clear why the taxes other than income taxes on production plant have been increasing at such a high rate. The trend is most likely caused by increasing property tax rates over the period, as well as increasing balances associated with transmission plant. There may be other taxes, such as generation taxes at Colstrip power station, that are influencing this trend, as well. Notwithstanding, my model uses the Company's escalation period of 2007 through 2015 for this category of cost.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution O&M Expense**

*Selected trend period highlighted green and displayed as green dots in figure*

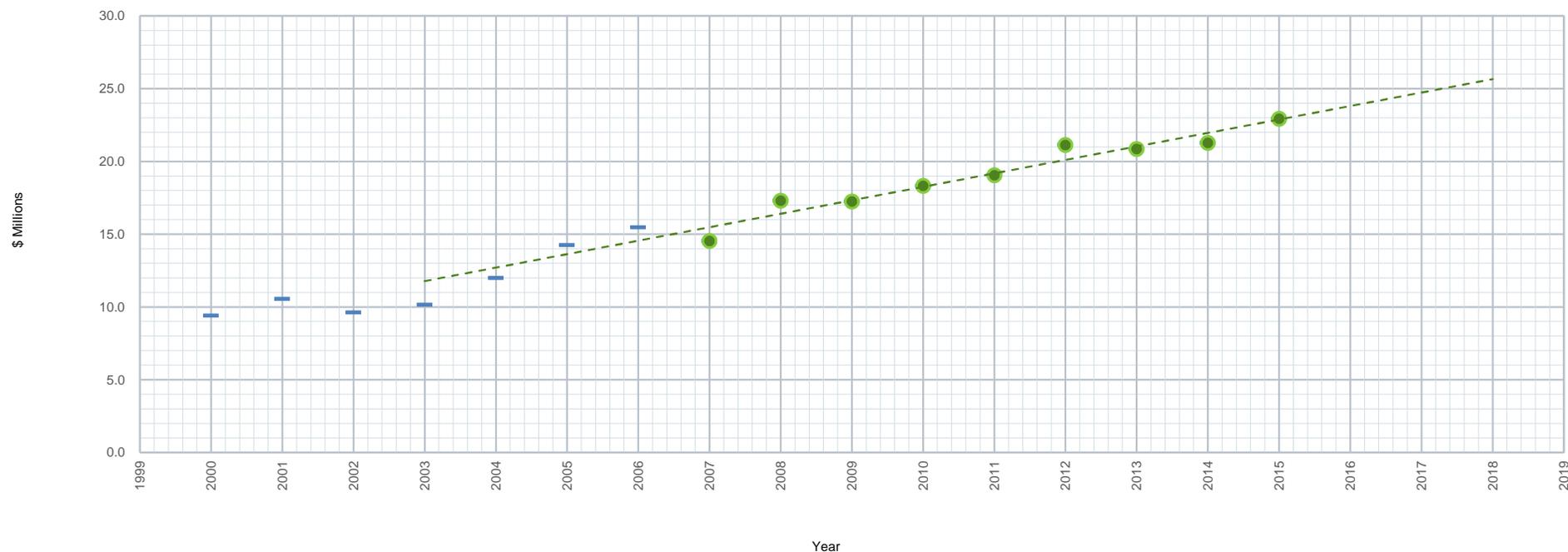
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Distribution Operations Expense	9,418	10,560	9,631	10,171	12,016	14,263	15,485	14,563	17,329	17,267	18,354	19,081	21,152	20,878	21,299	22,960
<b>Total Distribution O&amp;M Expense</b>	<b>9,418</b>	<b>10,560</b>	<b>9,631</b>	<b>10,171</b>	<b>12,016</b>	<b>14,263</b>	<b>15,485</b>	<b>14,563</b>	<b>17,329</b>	<b>17,267</b>	<b>18,354</b>	<b>19,081</b>	<b>21,152</b>	<b>20,878</b>	<b>21,299</b>	<b>22,960</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	925
R-Squared of Best-Fit	0.94021
Annual Growth Rate (% of 2015)	4.03%
2.25-year Growth Rate	<b>9.07%</b>

**Narrative**

The distribution O&M category of cost has experienced fairly steady growth over the past fifteen years. In the most recent four years (2012 through 2015), this trend appears to have leveled off, as this category of cost has experienced a rate of growth that is less than that experienced in the prior period. The slowing rate of growth in this category of cost may be related to the relatively low inflationary pressures on commodity prices experienced recently. Thus, the long term historical trend may not be the best predictor of this category of cost into the future. Notwithstanding, while the case could be made to use an escalation period of 2012 through 2015, my model uses the Company's escalation period of 2007 through 2015 for this category of cost.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution Depreciation Expense**

*Selected trend period highlighted green and displayed as green dots in figure*

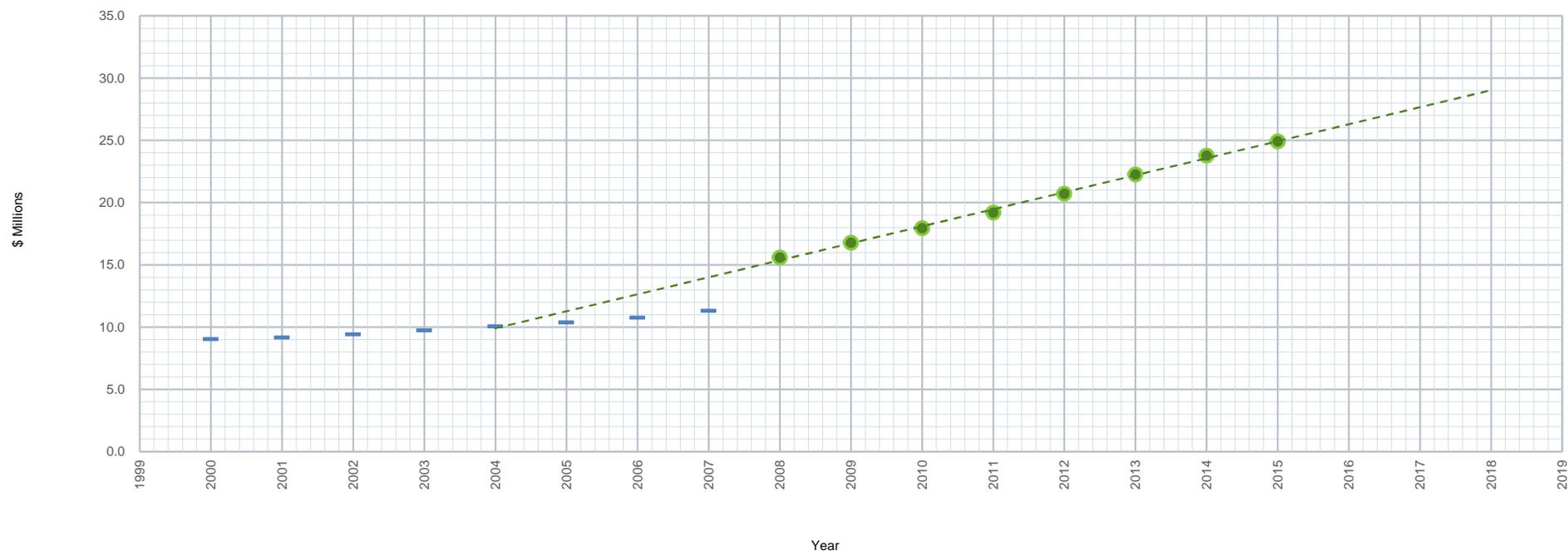
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Distribution Depreciation Expense	9,056	9,178	9,427	9,752	10,067	10,399	10,776	11,333	15,611	16,809	17,985	19,240	20,749	22,303	23,794	24,945
<b>Total Distribution Depreciation Expense</b>	<b>9,056</b>	<b>9,178</b>	<b>9,427</b>	<b>9,752</b>	<b>10,067</b>	<b>10,399</b>	<b>10,776</b>	<b>11,333</b>	<b>15,611</b>	<b>16,809</b>	<b>17,985</b>	<b>19,240</b>	<b>20,749</b>	<b>22,303</b>	<b>23,794</b>	<b>24,945</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	1,366
R-Squared of Best-Fit	0.99755
Annual Growth Rate (% of 2015)	5.48%
2.25-year Growth Rate	<b>12.32%</b>

**Narrative**

Over the period 2000 through 2007, the distribution depreciation expense category of cost was markedly flat, experiencing only minor increases. Beginning in 2008, however, the flat trend changed, and the category of cost began increasing at an increased rate. Accordingly, my analysis uses an escalation period of 2008 through 2015 for this category of cost. Inclusion of the 2007 data point, per the Company's escalation period, would have resulted in a lower r-squared value, thus making it less preferable to use that data point in the escalation factor calculation.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution Taxes Other Than Income Taxes**

*Selected trend period highlighted green and displayed as green dots in figure*

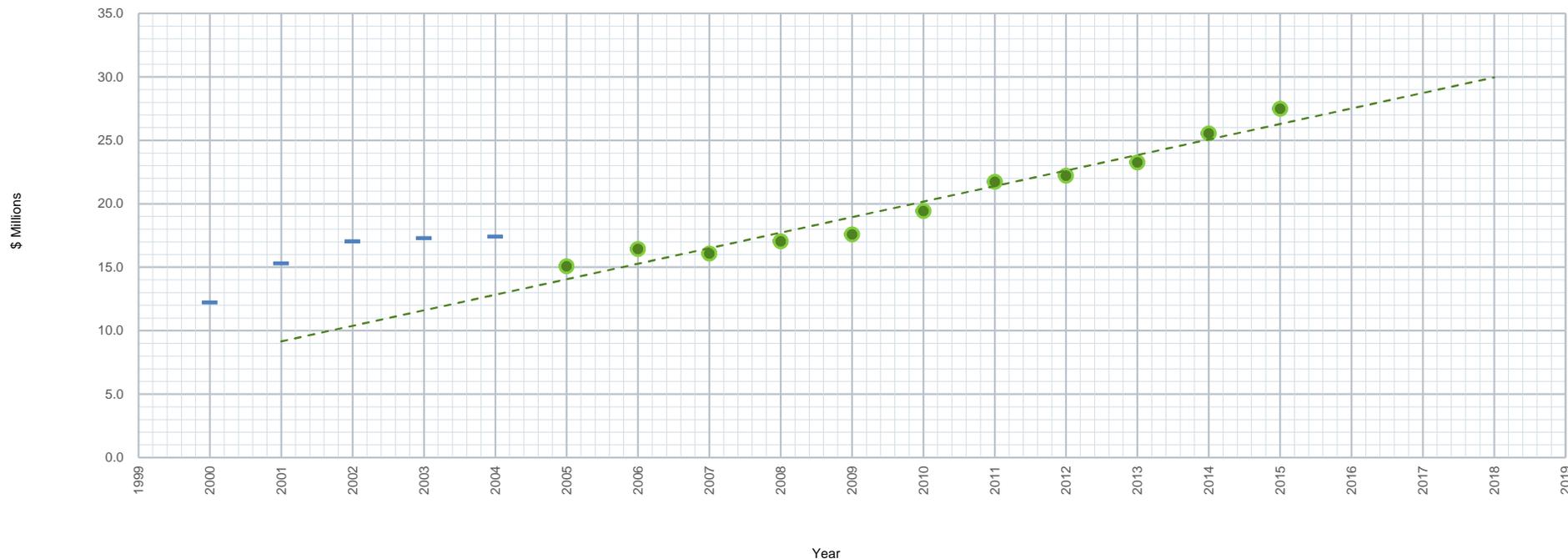
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Distribution Taxes	11,693	15,462	16,996	17,286	17,401	14,988	16,307	16,156	17,416	18,207	19,990	22,393	22,595	23,288	25,575	27,516
Less: ResEx Excise Taxes	672	57	303	256	289	379	415	225	144	162	252	186	336	-	-	-
Less: DSM Excise Taxes	(139)	(205)	(245)	(248)	(272)	(267)	(266)	(269)	(488)	(762)	(787)	(812)	(683)	-	-	-
<b>Total Distribution Taxes Other Than Income Taxes</b>	<b>12,226</b>	<b>15,314</b>	<b>17,054</b>	<b>17,294</b>	<b>17,418</b>	<b>15,100</b>	<b>16,457</b>	<b>16,112</b>	<b>17,072</b>	<b>17,606</b>	<b>19,455</b>	<b>21,768</b>	<b>22,249</b>	<b>23,288</b>	<b>25,575</b>	<b>27,516</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	1,224
R-Squared of Best-Fit	0.95526
Annual Growth Rate (% of 2015)	4.45%
2.25-year Growth Rate	<b>10.01%</b>

**Narrative**

Distribution taxes other than income taxes showed a somewhat more complicated historical pattern than some other categories of cost. Over the period 2000 through 2005, the category of cost increased and then decreased. Beginning in 2005, however, the category of cost began to increase again. While this category of cost experienced a slight reduction in 2007, the current trend appears to have largely originated in 2005, and accordingly, my model uses the period 2005 through 2015 to calculate the escalation rate for this category of cost.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Customer Accounting and Sales**

*Selected trend period highlighted green and displayed as green dots in figure*

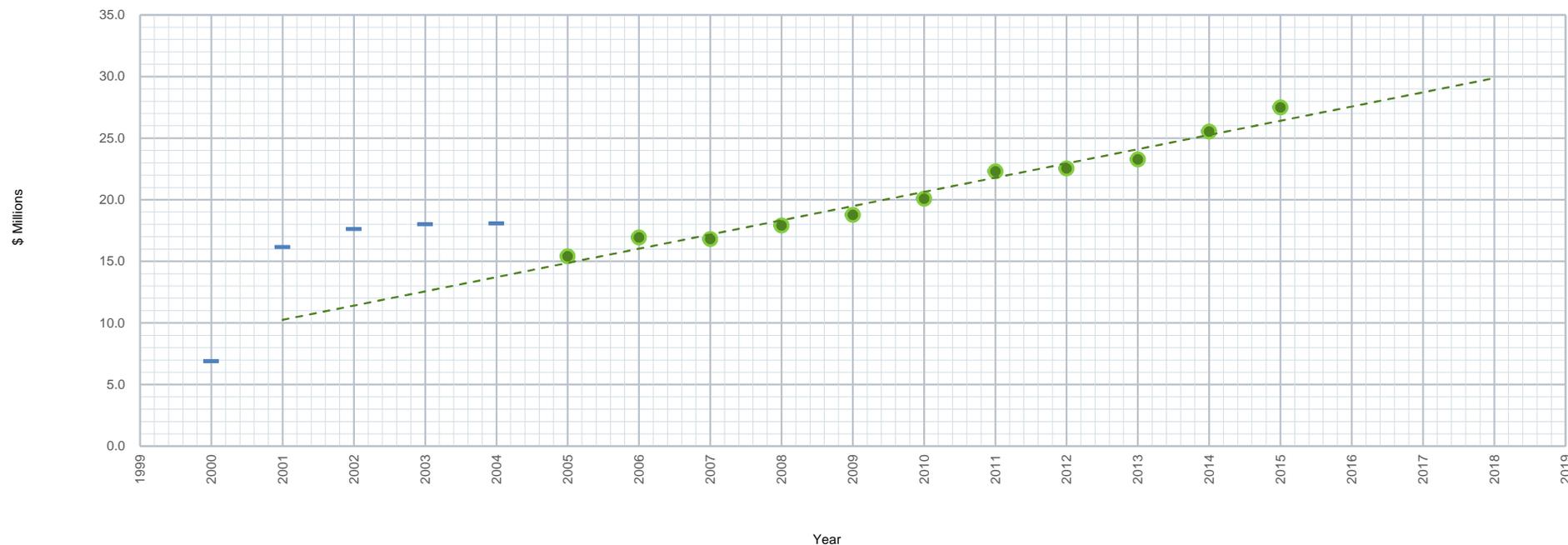
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Customer Accounting	5,768	15,462	16,996	17,286	17,401	14,988	16,307	16,156	17,416	18,207	19,990	22,393	22,595	23,288	25,575	27,516
Sales Expense	1,071	734	628	734	686	430	657	682	571	660	176	4	5	5	-	-
Less: ResEx	102	9	46	39	44	43	47	25	16	18	28	21	38	-	-	-
Less: DSM Excise	(21)	(31)	(37)	(38)	(41)	(30)	(30)	(30)	(55)	(86)	(88)	(91)	(77)	-	-	-
<b>Total Customer Accounting and Sales</b>	<b>6,920</b>	<b>16,174</b>	<b>17,633</b>	<b>18,021</b>	<b>18,090</b>	<b>15,431</b>	<b>16,981</b>	<b>16,833</b>	<b>17,948</b>	<b>18,799</b>	<b>20,106</b>	<b>22,327</b>	<b>22,561</b>	<b>23,293</b>	<b>25,575</b>	<b>27,516</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	1,154
R -Squared of Best-Fit	0.96919
Annual Growth Rate (% of 2015)	4.19%
2.25-year Growth Rate	<b>9.44%</b>

**Narrative**

Over the period 2001 through 2004, the customer accounting and sales category of cost experienced little to no growth. Beginning in 2005, the category of cost began to increase, developing what appears to be the current trend in this category of cost. Accordingly, my model uses the period 2005 through 2015 as the trend period for this category of cost.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Customer Service and Information**

*Selected trend period highlighted green and displayed as green dots in figure*

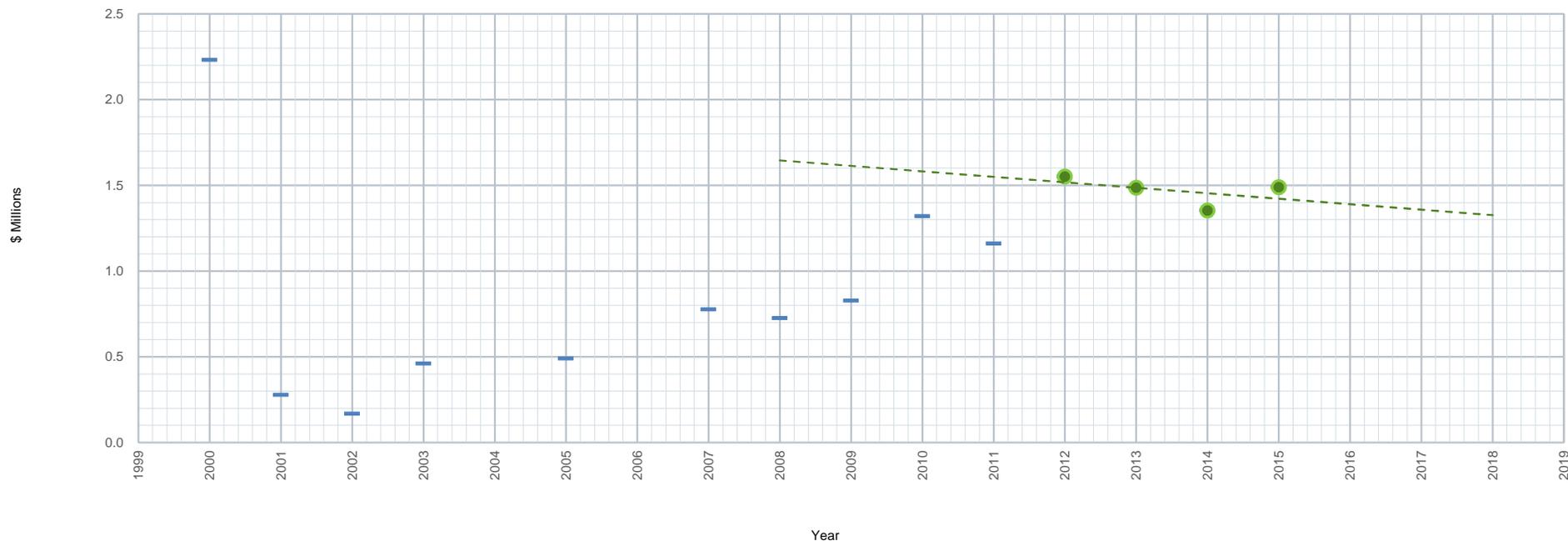
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Customer Service and Information	5,704	5,381	6,261	6,620	266	7,127	1,159	7,472	12,847	19,736	20,832	21,292	18,487	1,516	1,383	1,519
Less: DSM Cost	(3,443)	(5,074)	(6,064)	(6,130)	(6,747)	(6,608)	(6,580)	(6,667)	(12,092)	(18,880)	(19,483)	(20,102)	(16,906)	-	-	-
<b>Total Customer Service and Information</b>	<b>2,261</b>	<b>307</b>	<b>197</b>	<b>490</b>	<b>(6,481)</b>	<b>519</b>	<b>(5,421)</b>	<b>805</b>	<b>755</b>	<b>856</b>	<b>1,349</b>	<b>1,190</b>	<b>1,581</b>	<b>1,516</b>	<b>1,383</b>	<b>1,519</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	(32)
R-Squared of Best-Fit	0.24384
Annual Growth Rate (% of 2015)	-2.10%
2.25-year Growth Rate	<b>0.00%</b>

**Narrative**

The trend related to the customer service and information expense category of cost is less clear compared to other categories of cost. For example, this category of cost increased dramatically between 2009 and 2010. Yet, in 2011, it declined, only to increase again in 2012. From 2012 to the present, however, this category of cost has been relatively flat, declining slightly. It is probably most appropriate to assume that this category of cost will decline slightly in the test period, based on the use of a 2012 to 2015 trend period. Notwithstanding, my model assumes zero growth in this category of cost, due to the erratic historical pattern.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Administrative & General Operations Expense**

*Selected trend period highlighted green and displayed as green dots in figure*

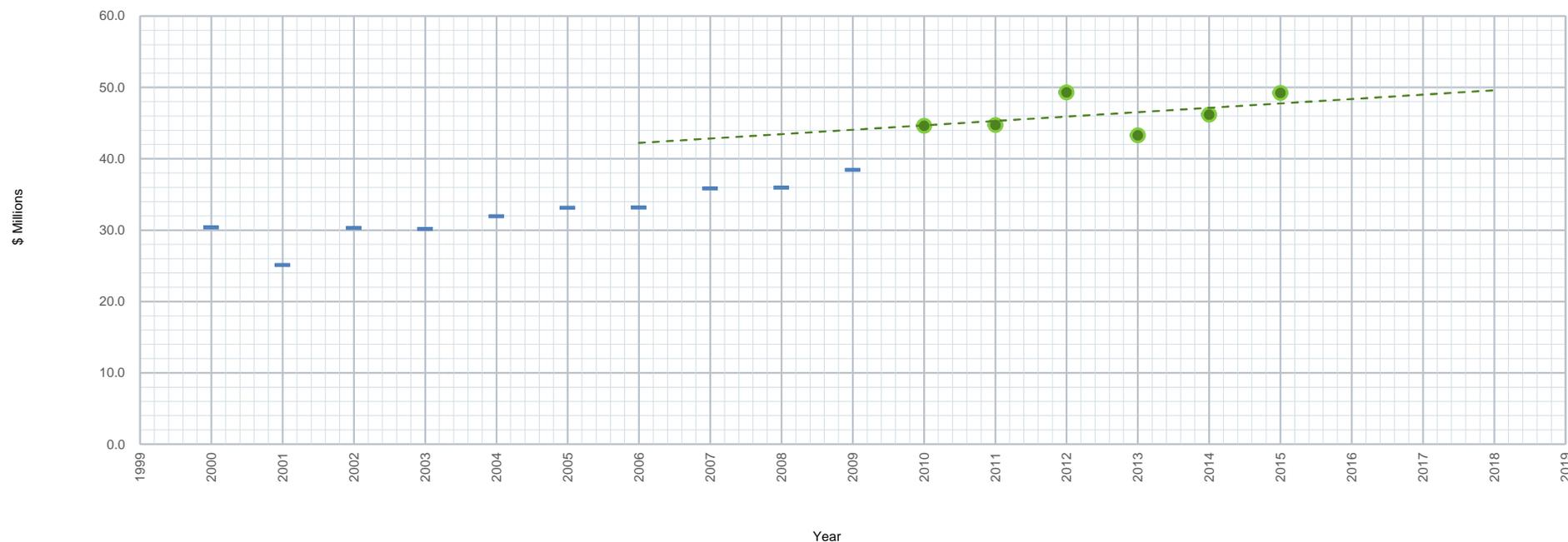
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Administrative and General	30,350	25,102	30,304	30,153	31,927	33,143	33,148	35,844	35,982	38,461	44,662	44,779	49,333	43,310	46,210	49,261
Less: DSM Cost	(7)	(11)	(13)	(13)	(14)	(14)	(14)	(14)	(25)	(40)	(41)	(42)	(35)	-	-	-
Less: ResEx Cost	35	3	16	13	15	20	22	12	7	8	13	10	17	-	-	-
<b>Total Administrative &amp; General Operations Expense</b>	<b>30,378</b>	<b>25,094</b>	<b>30,307</b>	<b>30,153</b>	<b>31,928</b>	<b>33,149</b>	<b>33,156</b>	<b>35,842</b>	<b>35,964</b>	<b>38,430</b>	<b>44,634</b>	<b>44,747</b>	<b>49,315</b>	<b>43,310</b>	<b>46,210</b>	<b>49,261</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	615
R -Squared of Best-Fit	0.20684
Annual Growth Rate (% of 2015)	1.25%
2.25-year Growth Rate	<b>2.81%</b>

**Narrative**

Administrative and general operations expense increased at a fairly steady rate over the period 2000 through 2010. From 2010 through 2015, the rate of growth appears to have leveled-off slightly, showing a slower growth trend over that period. This may be an indication that the Company has the ability to control this category of expense and that the longer term trend is not an indication of the uncontrollable costs increases in the future period. In addition, this category of cost appears to have experienced a one-time increase in between 2009 and 2010, which does not appear to be most appropriately included in the trend calculations. Accordingly, my model relies on the period 2010 to 2015 as the trend period for this category of cost.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Administrative & General Depreciation Expense**

*Selected trend period highlighted green and displayed as green dots in figure*

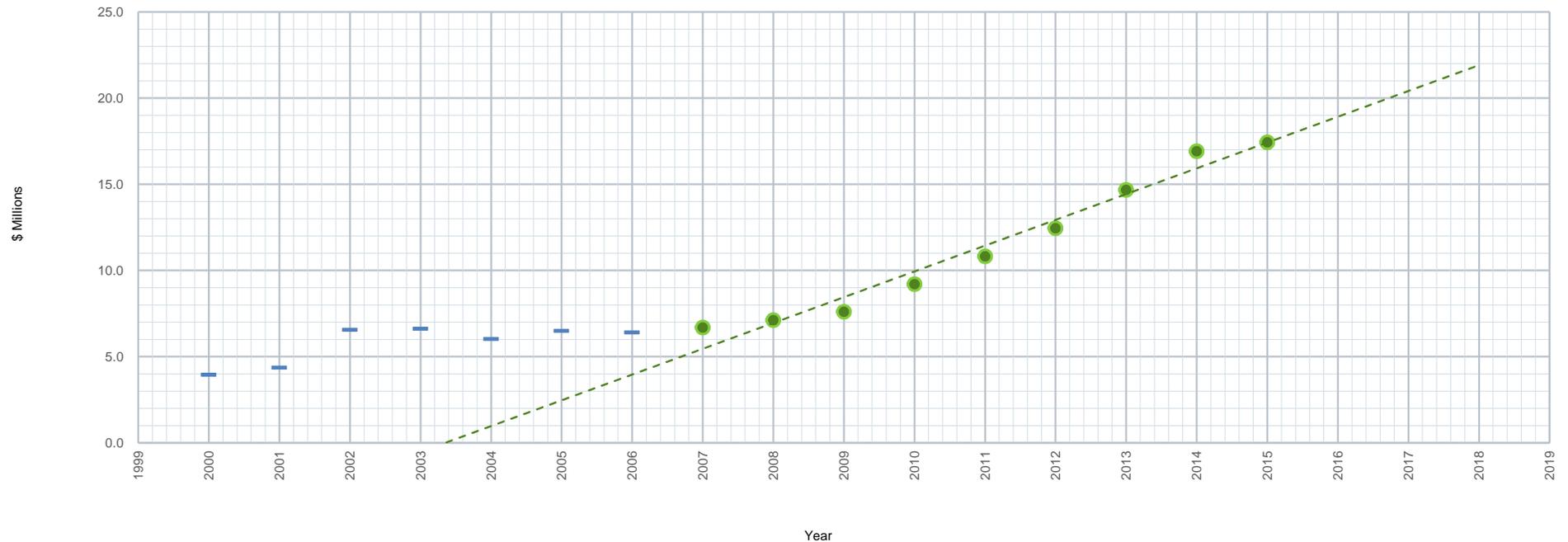
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Administrative and General	3,998	4,414	6,606	6,659	6,072	6,537	6,459	6,739	7,187	7,688	9,277	10,906	12,517	14,721	16,947	20,268
Less: DSM Cost	(7)	(11)	(13)	(13)	(14)	(14)	(14)	(14)	(25)	(40)	(41)	(42)	(35)	-	-	-
Less: Project Compass (ICNU DR 174)																(2,800)
<b>Total Administrative &amp; General Depreciation Expense</b>	<b>3,991</b>	<b>4,403</b>	<b>6,593</b>	<b>6,646</b>	<b>6,058</b>	<b>6,523</b>	<b>6,445</b>	<b>6,725</b>	<b>7,162</b>	<b>7,648</b>	<b>9,236</b>	<b>10,864</b>	<b>12,482</b>	<b>14,721</b>	<b>16,947</b>	<b>17,468</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	1,495
R -Squared of Best-Fit	0.96791
Annual Growth Rate (% of 2015)	8.56%
2.25-year Growth Rate	<b>19.26%</b>

**Narrative**

As with general plant, the category of cost related to administrative and general depreciation expense has escalated dramatically in recent years. As discussed in testimony, however, this is not a category of cost that one typically considers in relation to the Company's claims of attrition, as it is often more discretionary than other categories of cost. Thus, I remain concerned with the degree of escalation in administrative and general depreciation expenses. Notwithstanding these concerns, my model uses the Company's escalation period of 2007 to 2015 for this category of cost. In my view, however, the Commission would be justified in eliminating the escalation assumption for this category of cost, similar to its treatment of distribution plant in the 2015 GRC.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Intangible Net Plant**

*Selected trend period highlighted green and displayed as green dots in figure*

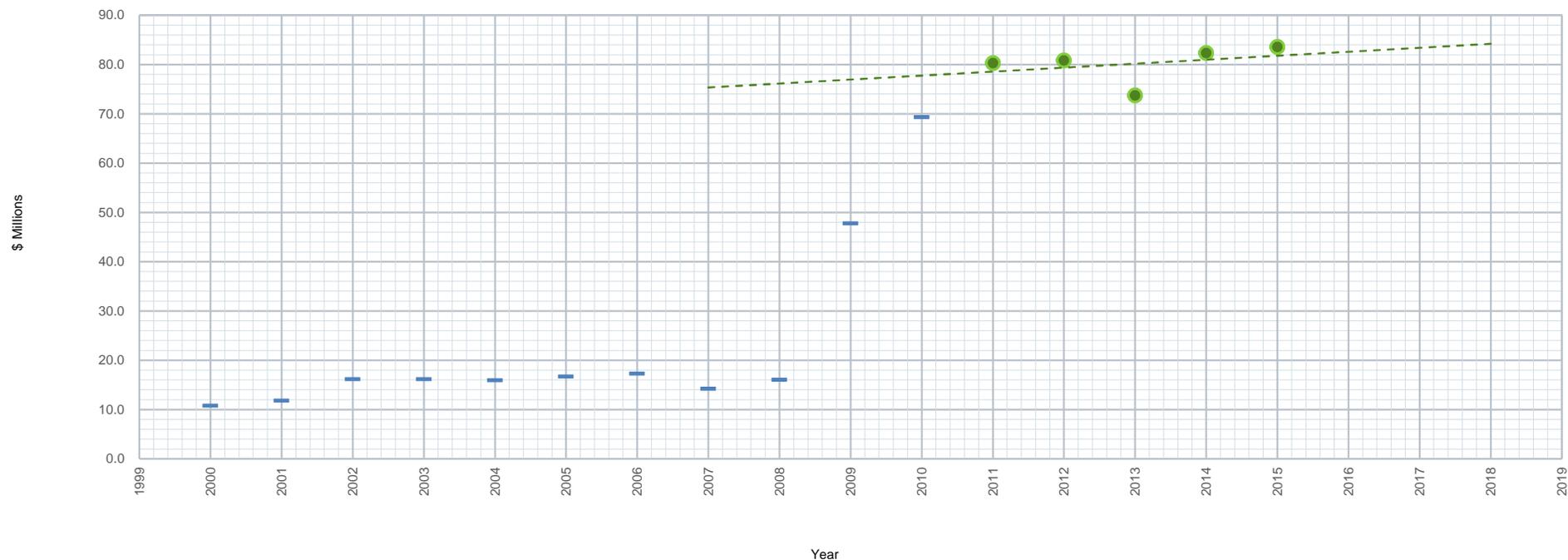
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gross Plant	15,127	16,340	20,910	21,299	21,374	22,459	23,458	20,632	23,321	57,116	81,955	84,081	85,247	91,466	102,620	132,877
Depreciation Reserve	(4,279)	(4,501)	(4,721)	(5,095)	(5,397)	(5,729)	(6,111)	(6,349)	(7,252)	(9,302)	(12,606)	(3,744)	(4,369)	(17,667)	(20,242)	(23,450)
Less: Project Compass																(25,812)
<b>Total Intangible Net Plant</b>	<b>10,848</b>	<b>11,839</b>	<b>16,189</b>	<b>16,204</b>	<b>15,977</b>	<b>16,730</b>	<b>17,347</b>	<b>14,283</b>	<b>16,069</b>	<b>47,814</b>	<b>69,349</b>	<b>80,337</b>	<b>80,878</b>	<b>73,799</b>	<b>82,378</b>	<b>83,615</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	806
R -Squared of Best-Fit	0.11215
Annual Growth Rate (% of 2015)	0.96%
2.25-year Growth Rate	<b>2.17%</b>

**Narrative**

Over the period 2000 through 2008, the net intangible plant balances remained markedly flat. Between 2008 and 2011, however, the net intangible plant values increased dramatically. Subsequently, between 2011 and 2015, the plant values returned to their historical flat trend. It is not clear what drove the increases in net intangible plant that occurred between 2008 and 2011. It is also not clear whether similarly large increases will occur in the future, as the Company has just completed Project Compass. Accordingly, my model uses the most recent flat trend that has occurred over the period 2011 through 2015.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Production Net Plant**

*Selected trend period highlighted green and displayed as green dots in figure*

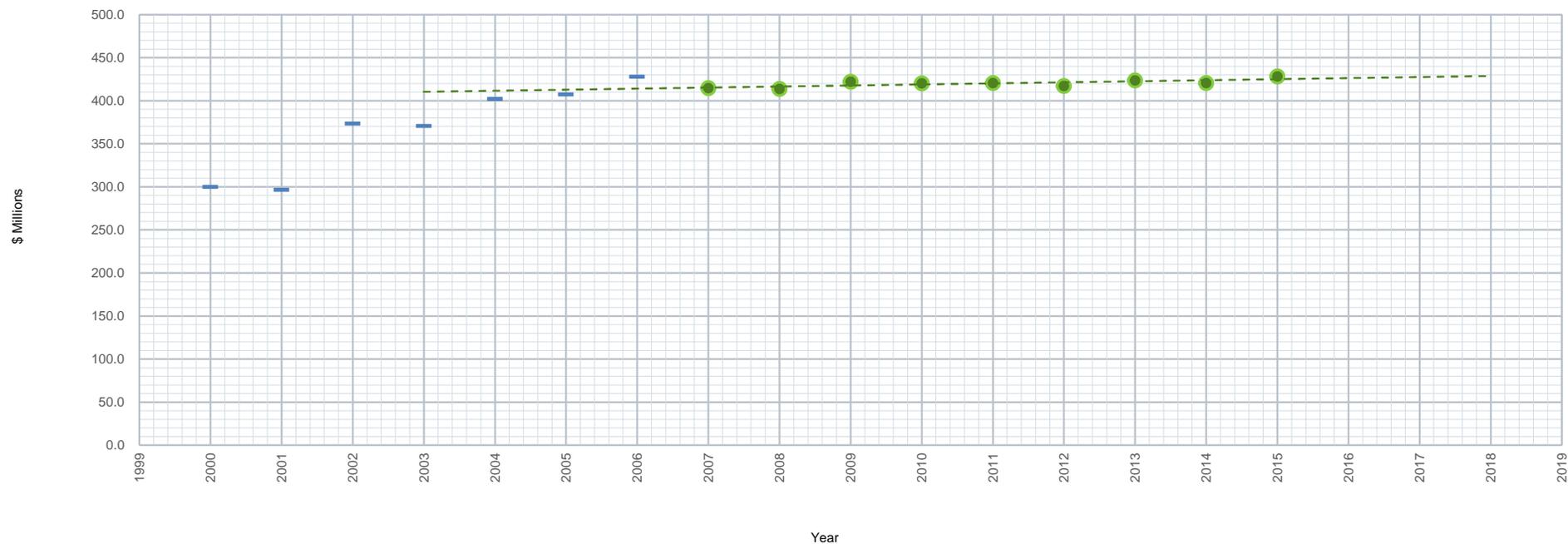
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gross Plant	455,498	460,292	545,002	556,067	598,268	615,624	649,965	645,576	657,099	677,646	692,689	706,894	717,448	738,315	746,101	762,834
Depreciation Reserve*	(155,496)	(163,566)	(171,572)	(185,180)	(196,126)	(208,203)	(222,098)	(230,738)	(243,189)	(255,390)	(272,340)	(286,300)	(300,170)	(314,599)	(325,531)	(334,622)
<b>Total Production Net Plant</b>	<b>300,002</b>	<b>296,726</b>	<b>373,430</b>	<b>370,887</b>	<b>402,142</b>	<b>407,421</b>	<b>427,867</b>	<b>414,838</b>	<b>413,910</b>	<b>422,256</b>	<b>420,349</b>	<b>420,594</b>	<b>417,278</b>	<b>423,716</b>	<b>420,570</b>	<b>428,212</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	1,222
R -Squared of Best-Fit	0.56733
Annual Growth Rate (% of 2015)	0.29%
2.25-year Growth Rate	<b>0.64%</b>

**Narrative**

Net production plant has remained relatively flat over the past ten years. Accordingly, my model uses the Company's escalation period of 2007 to 2015 for this category of cost.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Transmission Net Plant**

*Selected trend period highlighted green and displayed as green dots in figure*

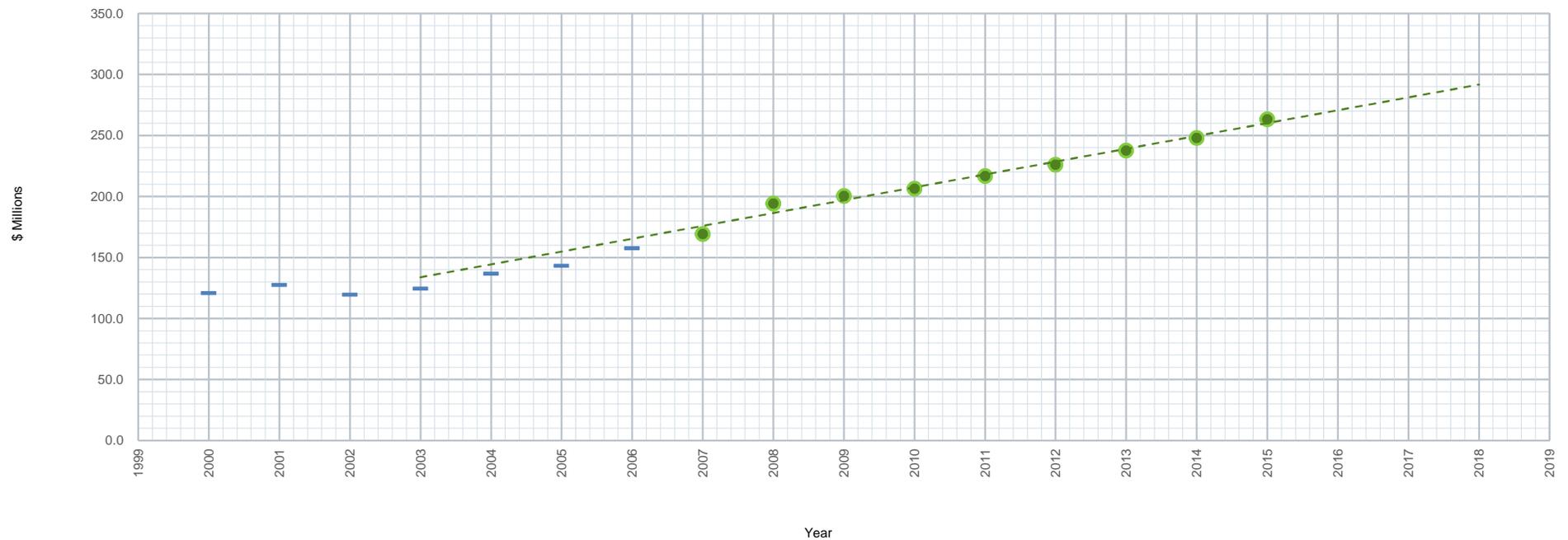
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gross Plant	181,627	191,517	186,550	196,937	213,539	224,696	244,435	259,532	289,302	301,090	312,505	328,012	342,382	359,941	371,971	390,240
Depreciation Reserve*	(60,746)	(63,899)	(67,026)	(72,342)	(76,619)	(81,337)	(86,765)	(90,140)	(95,026)	(100,649)	(106,041)	(111,144)	(116,316)	(122,308)	(123,869)	(126,839)
<b>Total Transmission Net Plant</b>	<b>120,881</b>	<b>127,618</b>	<b>119,524</b>	<b>124,595</b>	<b>136,920</b>	<b>143,359</b>	<b>157,670</b>	<b>169,392</b>	<b>194,276</b>	<b>200,441</b>	<b>206,464</b>	<b>216,868</b>	<b>226,066</b>	<b>237,633</b>	<b>248,102</b>	<b>263,401</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	10.525
R -Squared of Best-Fit	0.97943
Annual Growth Rate (% of 2015)	4.00%
2.25-year Growth Rate	<b>8.99%</b>

**Narrative**

Net transmission plant has grown relatively steadily over the past ten years. Accordingly, my model uses the Company's escalation period of 2007 to 2015 for this category of cost.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution Net Plant**

*Selected trend period highlighted green and displayed as green dots in figure*

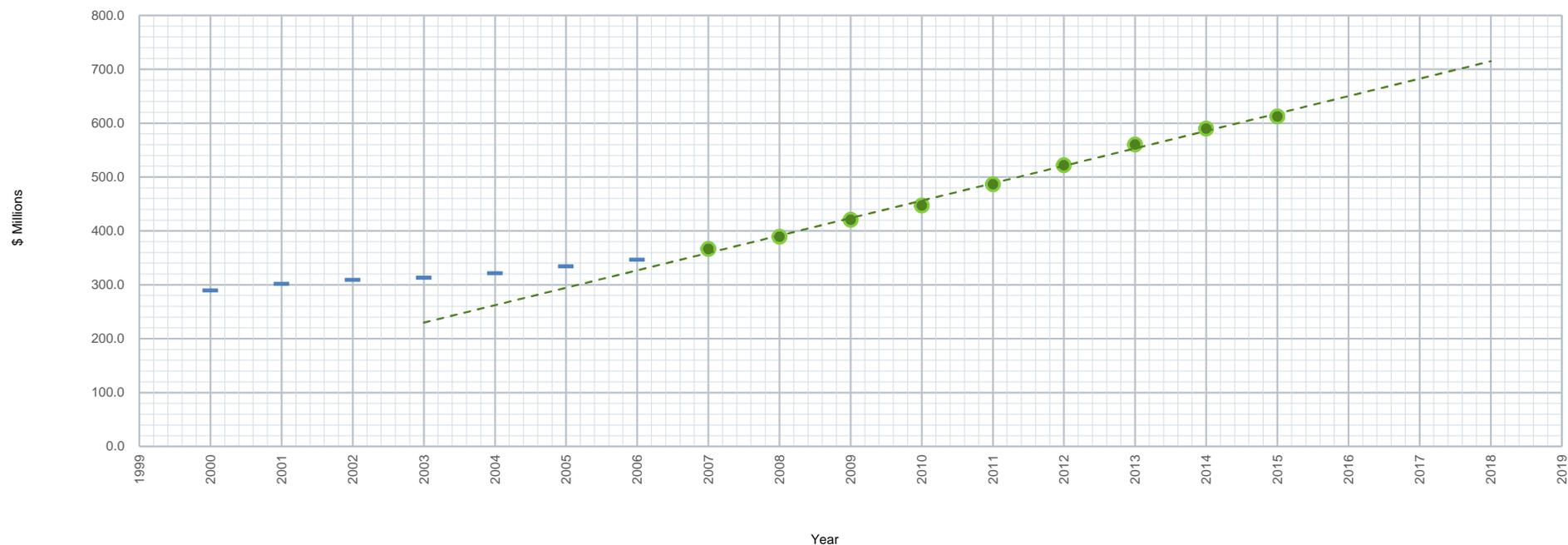
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gross Plant	398,952	416,914	429,987	443,649	459,739	480,886	502,838	529,067	561,248	602,201	642,143	696,082	743,732	796,640	842,795	880,960
Depreciation Reserve*	(109,404)	(115,082)	(120,715)	(130,289)	(137,991)	(146,488)	(156,264)	(162,343)	(172,026)	(181,327)	(194,593)	(209,101)	(221,408)	(236,201)	(252,722)	(268,267)
<b>Total Distribution Net Plant</b>	<b>289,548</b>	<b>301,832</b>	<b>309,272</b>	<b>313,360</b>	<b>321,748</b>	<b>334,398</b>	<b>346,574</b>	<b>366,724</b>	<b>389,222</b>	<b>420,874</b>	<b>447,550</b>	<b>486,981</b>	<b>522,324</b>	<b>560,439</b>	<b>590,073</b>	<b>612,693</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	32,339
R -Squared of Best-Fit	0.99603
Annual Growth Rate (% of 2015)	5.28%
2.25-year Growth Rate	<b>11.88%</b>

**Narrative**

The history of net distribution plant shows two distinct trends. The first trend occurred between 2000 and 2006 and showed relatively modest growth in net plant values. The second trend begins in 2007 and extends until 2015. During the second trend period, distribution plant has increased at a greater rate. In the 2015 GRC, the Commission questioned whether the growth in distribution plant was beyond the control of the Company. While Ms. Rosentrater provided testimony on distribution plant investments (See Exh. No. HLR-1T at 31:11-43:19), I still do not have a clear understanding of why distribution plant is increasing at such a great rate. In addition, her descriptions certainly did not give me the impression that the Company is working hard to prioritize and control its investment in this category of cost. Given the low inflationary environment, I would expect the growth in this category of plant to show some signs of slowing. In addition, it would be helpful to understand how the Company's investment in distribution plant compares to other similar utilities. To my knowledge, similarly sized utilities such as PacifiCorp have not been making attrition claims on the basis of distribution investment, yet distribution plant appears to be a key driver of the Company's claims. Notwithstanding these concerns, my model uses the Company's escalation period of 2007 to 2015 for this category of cost. In my view, however, the Commission would be justified in eliminating escalation for this category of cost, similar to its treatment in the 2015 GRC.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **General Net Plant**

Selected trend period highlighted green and displayed as green dots in figure

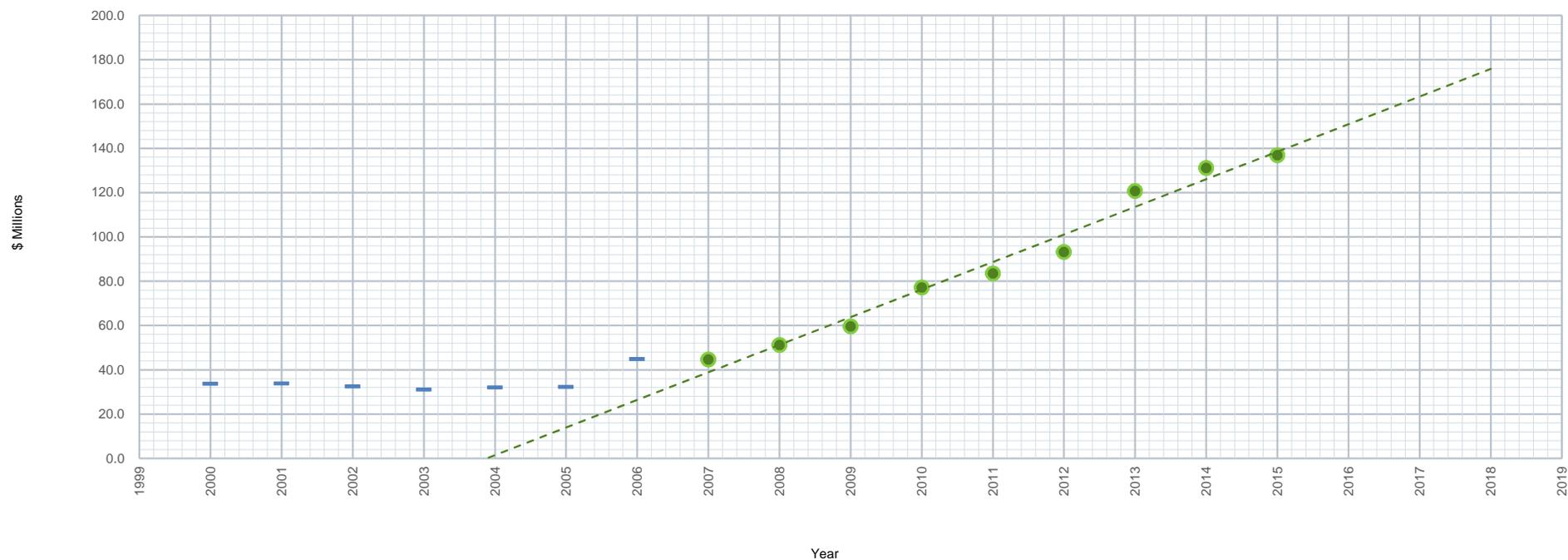
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gross Plant	58,402	59,846	59,771	60,444	63,155	65,299	80,110	81,368	91,205	98,727	120,996	140,218	155,104	179,134	196,867	207,659
Depreciation Reserve*	(24,757)	(26,042)	(27,317)	(29,483)	(31,226)	(33,149)	(35,361)	(36,737)	(39,933)	(39,153)	(43,819)	(56,694)	(61,871)	(58,357)	(65,720)	(70,794)
<b>Total General Net Plant</b>	<b>33,645</b>	<b>33,804</b>	<b>32,454</b>	<b>30,961</b>	<b>31,929</b>	<b>32,150</b>	<b>44,749</b>	<b>44,631</b>	<b>51,272</b>	<b>59,574</b>	<b>77,177</b>	<b>83,524</b>	<b>93,233</b>	<b>120,777</b>	<b>131,147</b>	<b>136,865</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	12,450
R -Squared of Best-Fit	0.97677
Annual Growth Rate (% of 2015)	9.10%
2.25-year Growth Rate	<b>20.47%</b>

**Narrative**

As noted in Response Testimony, the trend related to general net plant is somewhat concerning. This is a category of cost which I typically consider to be more under the control of the Company than other categories of costs, as the Company often has the ability to defer these sorts of investments to the extent that it is experiencing attrition. In this case, however, it is not necessarily clear why general net plant is growing at such a high rate. Notwithstanding these concerns, my model uses the Company's escalation period of 2007 to 2015 for this category of cost. In my view, however, the Commission would be justified in eliminating escalation for this category of cost, similar to its treatment of distribution plant in the 2015 GRC.



**2017 Electric Attrition Allowance Revenue Requirement Model  
Escalation Rate Evaluation**

Cost / Rate Base Category: **Accumulated Deferred Income Taxes**

*Selected trend period highlighted green and displayed as green dots in figure*

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Accumulated Deferred Income Taxes	105,775	109,541	111,367	135,404	150,960	134,967	138,495	139,033	147,502	163,716	184,825	201,163	208,209	221,354	257,766	300,583
<b>Total Accumulated Deferred Income Taxes</b>	<b>105,775</b>	<b>109,541</b>	<b>111,367</b>	<b>135,404</b>	<b>150,960</b>	<b>134,967</b>	<b>138,495</b>	<b>139,033</b>	<b>147,502</b>	<b>163,716</b>	<b>184,825</b>	<b>201,163</b>	<b>208,209</b>	<b>221,354</b>	<b>257,766</b>	<b>300,583</b>

**Statistics (Over Highlighted Period)**

Slope of Best-Fit Line	39,615
R-Squared of Best-Fit	0.99783
Annual Growth Rate (% of 2015)	13.18%
2.25-year Growth Rate	<b>29.65%</b>

**Narrative**

Because of the availability of bonus depreciation and accelerated depreciation for tax purposes, my expectation was that deferred income tax balances would grow at a rate in excess of the rate of growth applicable to net plant. Upon review of the data, it appears that the rate of growth in this category of cost over the long-term has largely aligned with other categories of plant. In the short-term, however, the growth in this category of cost appears to have accelerated, potentially in relation to the Company's increased levels of investments over the period. Accordingly, my model uses the past three years, 2013 through 2015, to establish the escalation rate for this category of cost. Use of this period produces a higher r-squared value than any other period that I evaluated in the historic data.

