WUTC DOCKET: UE-190334 EXHIBIT: DJG-35 ADMIT ☑ W/D ☐ REJECT ☐

BEFORE THE WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

WASHINGTON UTILIITES AND TRANSPORTATION COMMISSION,

Complainant,

v.

AVISTA CORPORATION d/b/a AVISTA UTILITIES,

Respondent.

DOCKET NOS. UE-190334 and UG-190335, UE-190222 (Consolidated)

DAVID J. GARRETT ON BEHALF OF PUBLIC COUNSEL

EXHIBIT DJG-35

Optimal Capital Structure Estimate

October 3, 2019

UE-190334 and UG-190335, UE-190222 (Consolidated) Exh. DJG-35 1 of 2

	Α	В С	D E I	F G	H I	J K L	M N	0	P Q I	R S	T U	v w	Х	Υ	Z
1															
2															
3									[14]	[15]	[16]	[17]			
4															
5		Inputs									s Table				
6									Coverage	Bond		Interest			
7			261,113	[1]					Ratio	Rating	Spread	Rate			
8	_		100,936	[2]					8.5 - 10.00	Aaa/AAA	0.75%	3.17%			
9			1,863,174	[3]					6.5 - 8.49	Aa2/AA	1.00%	3.42%			
-	1/		1,773,220	[4]					5.5 - 6.49	A1/A+	1.25%	3.67%			
	1 Debt / Capital		51.24%	[5]					4.25 - 5.49	A2/A	1.38%	3.80%			
	Debt / Equi	ty	105%	[6]					3.0 - 4.24		A3/A- 1.56%				
13	Debt Cost		5.33%	[7]					2.5 - 2.99	Baa2/BBB	2.00%	4.42%			
	Corporate 1		21%	[8]					2.25 - 2.49	Ba1/BB+	3.00%	5.42%			
15	Unlevered I	Beta	0.34	[9]					2.0 - 2.24	Ba2/BB	3.60%	6.02%			
16	6 Risk-free Rate		2.42%	[10]					1.75 - 1.99	B1/B+	4.50%	6.92%			
17	Equity Risk	Premium	5.96%	[11]					1.5 - 1.74	B2/B	5.40%	7.82%			
	Coverage R		2.59	[12]					1.25 - 1.49	B3/B-	6.60%	9.02%			
	Bond Rating	3	Baa2	[13]					0.8 - 1.24	Caa/CCC	9.00%	11.42%			
20															
21															
22	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]			
23															
24					Opti	mal Capital St	ructure Calcul	ation							
25															
26	Debt	D/E	Levered	Cost	Proposed	Debt	Interest	Coverage	Pre-tax	After-tax	Optimal	WACC at			
27	Ratio	Ratio	Beta	of Equity	ROE	Level	Expense	Ratio	Debt Cost	Debt Cost	WACC	9.0% ROE			
28	0%	0%	0.342 0.410	4.46%	9.00%	0	0	∞	3.17%	2.50%	4.46%	9.00%			
29		20% 25%		4.86%	9.00%	727,279	38,764	6.74	3.42%	2.70%	4.43%	7.74%			
30	30% 43%		0.458	5.15%	9.00%	1,090,918	58,146	4.49	3.80%	3.00% 4.50%		7.20%			
31	40%	67%	0.522 0.612	5.53%	9.00%	1,454,558	77,528	3.37	3.98%	3.14% 4.58%		6.66%			
32	50%	50% 100%		6.07%	9.00%	1,818,197	96,910	2.69	4.42%	3.49% 4.789		6.25%			
33	52% 108%			C 200/	9.00%	1,890,925	100,786	2.59	4.42%	3.49%	4.79%	6.14%			
		_	0.635	6.20%											
34	53%	113%	0.647	6.27%	9.00%	1,927,289	102,724	2.54	4.42%	3.49%	4.80%	6.08%			
34 35	55%	113% 122%	0.647 0.673	6.27% 6.42%	9.00% 9.00%	1,927,289 2,000,017	106,601	2.45	4.42% 5.42%	3.49% 4.28%	5.25%	6.40%			
34 35 36		113%	0.647	6.27%	9.00%	1,927,289			4.42%	3.49%		_			
34 35 36 37	55%	113% 122%	0.647 0.673	6.27% 6.42%	9.00% 9.00%	1,927,289 2,000,017	106,601	2.45	4.42% 5.42%	3.49% 4.28%	5.25%	6.40%			
34 35 36 37 38	55%	113% 122%	0.647 0.673	6.27% 6.42%	9.00% 9.00%	1,927,289 2,000,017	106,601	2.45	4.42% 5.42%	3.49% 4.28%	5.25%	6.40%			
34 35 36 37 38 39	55% 60%	113% 122% 150%	0.647 0.673 0.748	6.27% 6.42%	9.00% 9.00% 9.00%	1,927,289 2,000,017 2,181,836	106,601	2.45	4.42% 5.42% 5.42%	3.49% 4.28% 4.28%	5.25%	6.40%			
34 35 36 37 38 39 40	55% 60%	113% 122% 150% ny 2018 Annua	0.647 0.673 0.748	6.27% 6.42%	9.00% 9.00% 9.00% 9.00%	1,927,289 2,000,017 2,181,836	106,601	2.45	4.42% 5.42% 5.42% [21] = [10] + [2	3.49% 4.28% 4.28% 0] * [11]	5.25% 5.32%	6.40%			
34 35 36 37 38 39 40 41	55% 60% [1], [2] Compa [3], [4] Compa	113% 122% 150% ny 2018 Annua	0.647 0.673 0.748	6.27% 6.42%	9.00% 9.00% 9.00% [12] = [1] / [2] [13] Compan	1,927,289 2,000,017 2,181,836	106,601 116,292	2.45	4.42% 5.42% 5.42% [21] = [10] + [2 [22] Recomme	3.49% 4.28% 4.28% 0] * [11] nded awarded R	5.25% 5.32%	6.40%			
34 35 36 37 38 39 40 41 42	55% 60% [1], [2] Compa [3], [4] Compa [5] = [3] / ([3]	113% 122% 150% ny 2018 Annua	0.647 0.673 0.748	6.27% 6.42%	9.00% 9.00% 9.00% 9.00% [12] = [1] / [2 [13] Compan [14] Ranges	1,927,289 2,000,017 2,181,836 21 by bond rating of coverage ratios	106,601 116,292	2.45	4.42% 5.42% 5.42% [21] = [10] + [2 [22] Recomme [23] = [18] * ([3.49% 4.28% 4.28% 0) * [11] nded awarded R 3] + [4]); (000's)	5.25% 5.32%	6.40%			
34 35 36 37 38 39 40 41 42 43	55% 60% [1], [2] Compa [3], [4] Compa [5] = [3] / [[3] [6] = [3] / [4]	113% 122% 150% ny 2018 Annua ry 2018 Annua + [4])	0.647 0.673 0.748	6.27% 6.42%	9.00% 9.00% 9.00% 9.00% [12] = [1] / [2 [13] Compan [14] Ranges [15] Moody's	1,927,289 2,000,017 2,181,836 21 22 21 34 bond rating 35 of coverage ratios 35 / S&P bond rating	106,601 116,292	2.45	4.42% 5.42% 5.42% [21] = [10] + [2 [22] Recomme [23] = [18] * ([[24] = [22] * [7	3.49% 4.28% 4.28% 0] * [11] nded awarded R 3] + [4]); (000's)]; (000's)	5.25% 5.32%	6.40%			
34 35 36 37 38 39 40 41 42 43	55% 60% [1], [2] Compa [3], [4] Compa [5] = [3] / [3] [6] = [3] / [4] [7] Company 2	113% 122% 150% 150% ny 2018 Annua ry 2018 Annua + [4])	0.647 0.673 0.748 0.748 0.748 0.748 0.748	6.27% 6.42%	9.00% 9.00% 9.00% 9.00% [12] = [1] / [2] [13] Compan [14] Ranges [15] Moody's [16] NYU spr	1,927,289 2,000,017 2,181,836 21 21 22 21 29 bond rating of coverage ratios s / S&P bond ratire ead over risk-free	106,601 116,292 116,292	2.45	4.42% 5.42% 5.42% [21] = [10] + [2 [22] Recomme [23] = [18] * ([[24] = [22] * [7 [25] = [1] / [23	3.49% 4.28% 4.28% 0) * [11] nded awarded R 3] + [4]); (000's)]; (000's)	5.25% 5.32%	6.40%			
34 35 36 37 38 39 40 41 42 43 44 45	55% 60% [1], [2] Compa [3], [4] Compa [5] = [3] / ([3] [6] = [3] / [4] [7] Company 2 [8] Estimated	113% 122% 150% 150% ny 2018 Annua + [4])	0.647 0.673 0.748 0.748 0.748 0.748 0.748 0.748 0.748 0.748 0.748 0.748 0.748 0.748	6.27% 6.42%	9.00% 9.00% 9.00% 9.00% [12] = [1] / [2 [13] Compan [14] Ranges. [15] Moody's [16] NYU spr [17] = [16] +	1,927,289 2,000,017 2,181,836 2) by bond rating of coverage ratios \$s / S&P bond ratire and over risk-free [10] = est. debt or	106,601 116,292 116,292	2.45	4.42% 5.42% 5.42% [21] = [10] + [2 [22] Recomme [23] = [18] * ([[24] = [22] * [7] [25] = [1] / [23 [26] Debt cost	3.49% 4.28% 4.28% 0] * [11] nded awarded R 3] + [4]); (000's)]; (000's)	5.25% 5.32%	6.40%			
34 35 36 37 38 39 40 41 42 43 44 45 46	55% 60% [1], [2] Compa [3], [4] Compa [5] = [3] / ([3] [6] = [3] / [4] [7] Company 2 [8] Estimated [9] Average be	113% 122% 150% 150% ny 2018 Annua + [4]) 2018 Annual Re corporate tax r	0.647 0.673 0.748 0.748 I Report (000s) I Report (000s) I Report (000s)	6.27% 6.42%	9.00% 9.00% 9.00% 9.00% [12] = [1] / [2 [13] Compan [14] Ranges · [15] Moody! [16] NVU spr [17] = [16] + [18] = debt /	1,927,289 2,000,017 2,181,836 ay bond rating of coverage ratios s / S&P bond ratir ead over risk-free [10] = est. debt or total capital	106,601 116,292 116,292	2.45	4.42% 5.42% 5.42% [21] = [10] + [2 [22] Recomme [23] = [18] * ([: [24] = [22] * [7] / [25] = [1] / [23 [26] Debt cost [27] = [25] * (1	3.49% 4.28% 4.28% 0] * [11] nded awarded R 3] + [4]; (000's) 1]; (000's) 1] given coverage (-[8])	5.25% 5.32%	6.40%			
34 35 36 37 38 39 40 41 42 43 44 45	55% 60% [1], [2] Compa [3], [4] Compa [5] = [3] / ([3] [6] = [3] / [4] [7] Company 2 [8] Estimated [9] Average be [10] From DJG	113% 122% 150% 150% ny 2018 Annua + [4])	0.647 0.673 0.748 0.	6.27% 6.42%	9.00% 9.00% 9.00% 9.00% [12] = [1] / [2 [13] Compan [14] Ranges. [15] Moody's [16] NYU spr [17] = [16] + [18] = debt / [19] = [18] /	1,927,289 2,000,017 2,181,836 ay bond rating of coverage ratios s / S&P bond ratir ead over risk-free [10] = est. debt or total capital	106,601 116,292 116,292	2.45	4.42% 5.42% 5.42% [21] = [10] + [2 [22] Recomme [23] = [18] * ([[24] = [22] * [7] [25] = [1] / [23] [26] Debt cost [27] = [25] * (1 [28] = ([18] * []	3.49% 4.28% 4.28% 0] * [11] nded awarded R 3] + [4]); (000's)]; (000's)	5.25% 5.32% 0E atio per Rating:	6.40%			

	AA	AB	AC	AD	AE		AF	AC	i i	ΔН	AI .	A. AK	ΑI	AM A	ΑI	AO A		AQ	ΑI	AS	Α	AU /	۱۷	AW
1																								
2																								
3																								
4																								
5																								
6											Figure		Ш								Ш			
7													Ш											
8											Debt	Levered	Ш	Cost		oposed		verage	Ш	After-tax	Ш	Optimal	_	WACC at
9											Ratio	Beta	Ш	of Equity	_	ROE		Ratio	Ш	Debt Cost	Ш	WACC	9	9.0% ROE
10											0%	0.342	Ш	4.46%		9.00%		∞	Ш	2.50%	Ш	4.46%		9.00%
11											20%	0.410	Ш	4.86%	_	9.00%	_	6.74	Ш	2.70%	Ш	4.43%		7.74%
12											30%	0.458	Ш	5.15%		9.00%		4.49	Ш	3.00%	Ш	4.50%		7.20%
13											40%	0.522	Ш	5.53%	_	9.00%		3.37	Ш	3.14%	Ш	4.58%		6.66%
14											50%	0.612	Ц	6.07%	_	9.00%		2.69	Ц	3.49%	Ц	4.78%		6.25%
15											52%	0.635	Н	6.20%		9.00%		2.59	Ш	3.49%	Ш	4.79%		6.14%
16											53%	0.647		6.27%	_	9.00%	_	2.54		3.49%		4.80%	_	6.08%
17											55%	0.673	Н	6.42%		9.00%		2.45	Ш	4.28%	Н	5.25%		6.40%
18											60%	0.748	Н	6.87%		9.00%		2.25		4.28%	Ш	5.32%		6.17%
19													Ш						Ш		Ш			
20																								
21						١,	20/	1	Į.		ļ	,		Ų	1	Ü	ı							
22							3%																	
23																					Ш			
24														986					Ш		Ш			
25									_		20	. w									Ш			
26						6	5%		- 88				Н								Н			
27						_		200		1 8											Ш			
28						ij															Ш			
29						ар				1 8														
30						ے ت	1%						H		=	Cost of De	bt				Ш			
31						Cost of Capital				_ 8	8 – 8										Ш			
32						st	=	- 88	= 8							Cost of Ec	uity							
33						ŭ										WACC					Ш			
34							20/		- 3												Ш			
35						4	2%												Н		Н		-	
36																			H		Н			
37																			Н		Н		-	
38				-															H		Н			
39						()% +=			-				- 910					Н		Н		-	
40								40%	50%		2% 53			60%					Н		Н		-	
41				-						D	ebt Ratio)							H		Н			
42						1		1	i	1	i	1	1 1	i	1	i			Н		Н		-	
43													Н						Н		Н		-	
44						_							Н						Н		Н		-	
45													H						Н		Ш			
46													Н		-				Н		Н		-	
47													Н						Н		Н		-	
48																	1				1			