# BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-170485

DOCKET NO. UG-170486

EXH. AMM-17

ADRIEN M. MCKENZIE

REPRESENTING AVISTA CORPORATION

## **REVISED GORMAN RISK PREMIUM**

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## TREASURY BOND YIELD

	(a)	(a)	(a)	
		Authorized	Indicated Risk	
	Treasury	Electric		
	Bond Yield	Returns	Premium	
1986	7.80%	13.93%	6.13%	
1987	8.58%	12.99%	4.41%	
1988	8.96%	12.79%	3.83%	
1989	8.45%	12.97%	4.52%	
1990	8.61%	12.70%	4.09%	
1991	8.14%	12.55%	4.41%	
1992	7.67%	12.09%	4.42%	
1993	6.60%	11.41%	4.81%	
1994	7.37%	11.34%	3.97%	
1995	6.88%	11.55%	4.67%	
1996	6.70%	11.39%	4.69%	
1997	6.61%	11.40%	4.79%	
1998	5.58%	11.66%	6.08%	
1999	5.87%	10.77%	4.90%	
2000	5.94%	11.43%	5.49%	
2001	5.49%	11.09%	5.60%	
2002	5.43%	11.16%	5.73%	
2003	4.96%	10.97%	6.01%	
2004	5.05%	10.75%	5.70%	
2005	4.65%	10.54%	5.89%	
2006	4.90%	10.34%	5.44%	
2007	4.83%	10.31%	5.48%	
2008	4.28%	10.37%	6.09%	
2009	4.07%	10.52%	6.45%	
2010	4.25%	10.29%	6.04%	
2011	3.91%	10.19%	6.28%	
2012	2.92%	10.01%	7.09%	
2013	3.45%	9.81%	6.36%	
2014	3.34%	9.75%	6.41%	
2015	2.84%	9.60%	6.76%	
2016	2.60%	9.60%	7.00%	
2017(thru 2Q)	2.97%	9.61%	6.64%	
AVERAGE	5.61%	11.12%	5.51%	

## **IMPLIED COST OF EQUITY**

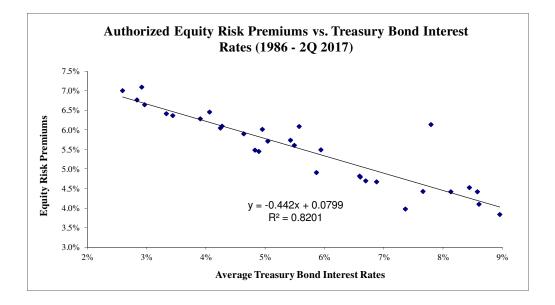
Projected Treasury Bond Yield (b)	3.60%
Average Treasury Bond Yield Over Study Period	5.61%
Change in Bond Yield	-2.01%
Risk Premium/Interest Rate Coefficient (c)	-44.20%
Adjustment to Study Period Risk Premium	0.89%
Average Risk Premium Over Study Period	5.51%
Interest Rate Adjustment	0.89%
Adjusted Equity Risk Premium	6.40%
Projected Treasury Bond Yield (b)	3.60%
Implied Cost of Equity	10.00%

(a) Exhibit No. MPG-16.

(b) Gorman Direct at 53.

(c) See regression data on page 2 of this Exhibit.

## **REGRESSION OUTPUT - TREASURY BOND YIELD**



#### SUMMARY OUTPUT

Regression Sta	tistics							
Multiple R	0.905582993							
R Square	0.820080558							
Adjusted R Square	0.814083243							
Standard Error	0.004018312							
Observations	32							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.002207939	0.002207939	136.7412905	1.06187E-12			
Residual	30	0.000484405	1.61468E-05					
Total	31	0.002692344						
						-		
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.079881673	0.002238119	35.69143322	3.91524E-26	0.075310825	0.084452522	0.075310825	0.084452522
X Variable 1	-0.442009906	0.037799161	-11.69364317	1.06187E-12	-0.519206092	-0.36481372	-0.519206092	-0.364813719

## **REVISED GORMAN RISK PREMIUM**

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1.23%

4.13% 1.23%

5.36%

4.27%

9.63%

#### UTILITY BOND YIELD

	(a)	(a)	(a)
	Moody's "A" Rated	Authorized	Indicated
	Public Utility	Electric	Risk
	Bond Yield	Returns	Premium
1986	9.58%	13.93%	4.35%
1987	10.10%	12.99%	2.89%
1988	10.49%	12.79%	2.30%
1989	9.77%	12.97%	3.20%
1990	9.86%	12.70%	2.84%
1991	9.36%	12.55%	3.19%
1992	8.69%	12.09%	3.40%
1993	7.59%	11.41%	3.82%
1994	8.31%	11.34%	3.03%
1995	7.89%	11.55%	3.66%
1996	7.75%	11.39%	3.64%
1997	7.60%	11.40%	3.80%
1998	7.04%	11.66%	4.62%
1999	7.62%	10.77%	3.15%
2000	8.24%	11.43%	3.19%
2001	7.76%	11.09%	3.33%
2002	7.37%	11.16%	3.79%
2003	6.58%	10.97%	4.39%
2004	6.16%	10.75%	4.59%
2005	5.65%	10.54%	4.89%
2006	6.07%	10.34%	4.27%
2007	6.07%	10.31%	4.24%
2008	6.53%	10.37%	3.84%
2009	6.04%	10.52%	4.48%
2010	5.46%	10.29%	4.83%
2011	5.04%	10.19%	5.15%
2012	4.13%	10.01%	5.88%
2013	4.48%	9.81%	5.33%
2014	4.28%	9.75%	5.47%
2015	4.12%	9.60%	5.48%
2016	3.93%	9.60%	5.67%
2017(thru 2Q)	4.12%	9.61%	5.49%
AVERAGE	6.99%	11.12%	4.13%
INDICATED COST OF EQUITY			
Current Baa Utility Bond Yield (b)			4.27%
Average Utility Bond Yield Over Study	Period		6.99%
Change in Bond Yield			-2.72%
Risk Premium/Interest Rate Coefficient (	c)		-45.20%
	•		1.000/

Adjustment to Study Period Risk Premium Average Risk Premium Over Study Period Interest Rate Adjustment Adjusted Equity Risk Premium Current Baa Utility Bond Yield (b)

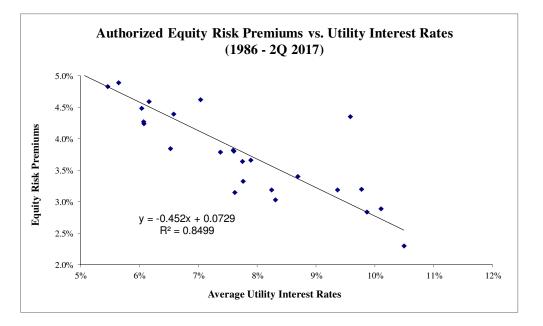
Implied Cost of Equity

(a) Exhibit No. MPG-17.

(b) Gorman Direct at 53.

(c) See regression data on page 4 of this Exhibit.

#### **REGRESSION OUTPUT - UTILITY BOND YIELD**



#### SUMMARY OUTPUT

Regression Statistics						
Multiple R	0.921914078					
R Square	0.849925567					
Adjusted R Square	0.844923086					
Standard Error	0.003782283					
Observations	32					

#### ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.002430544	0.002430544	169.9008052	6.87551E-14
Residual	30	0.00042917	1.43057E-05		
Total	31	0.002859714			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.0729043	64 0.002514212	28.99690365	1.67796E-23	0.067769658	0.07803907	0.067769658	0.07803907
X Variable 1	-0.4519564	08 0.034673592	-13.03460031	6.87551E-14	-0.522769329	-0.381143487	-0.522769329	-0.381143487