AVISTA CORP.
RESPONSE TO REQUEST FOR INFORMATION

JURISDICTION:	WASHINGTON	DATE PREPARED:	12/08/17
CASE NO.:	UE-170485 & UG-170486	WITNESS:	Kevin Christie
REQUESTER:	UTC Staff	RESPONDER:	Amber Gifford
TYPE:	Data Request	DEPT:	DSM
REQUEST NO.:	Staff - 292	TELEPHONE:	(509) 495-2896
		EMAIL:	amber.gifford@avistacorp.com

REQUEST:

Mr. Christie, in Exh. KJC-2T at 6:18 - 7:2, states:

> "Because the Company is in the position to offer its customers a more economic and reliable heating product, it is acting in the best interest of its customers by way of incentives. Ms. Snyder's suggestion that the Company is using the fuel conversion program to grow its gas business disregards the Company's situation as a dual fuel utility, operating in a cold climate, that has the duty to provide safe and reliable service to all its customers (natural gas and electric) at the lowest reasonable cost."

And in Exh. KJC-2T at 16:14-15, Mr. Christie states:

> "The costs for heating with electric resistance heat can be between 1.5 to 3 times the cost of heating with natural gas. . . ."

Please provide the customer data relied upon by Mr. Christie to determine that using natural gas as a heating product is more economic than using electricity.

RESPONSE:

Please see Staff_DR_292 Attachment A for the Heating Fuel Cost Comparison Calculator which Avista uses to determine the cost savings that can be expected when a customer converts their heating system from electric resistance to natural gas. The example shown in the calculator is for an average residential customer with a 2,000 square foot home (1,000 square feet on the main floor with a full basement). The annual heating load for the home is calculated (in the home-use estimator tab of the calculator) using heat loss and gain equations along with heating degree day information for Spokane, WA. The example assumes 14,308 kWh of annual usage. The output of the calculator indicates that the cost of heating with electric resistance is $1,544.25 annually, while the cost of heating with natural gas is $567.02 annually. In this example, the cost of heating with electric resistance heat is 2.7 times to cost of heating with natural gas resulting in an annual savings of 63%.

Heating Fuel Cost Comparison

The purpose of this calculator is to show how Avista determines the cost savings that can be expected when a customer converts their heating system from electric resistance to natural gas. The example below is for an average residential customer with a 2,000 square foot home (1,000 square feet on the main floor with a full basement). The annual heating load for the home is calculated on a seperate tab using heat loss and gain equations along with heating degree day information for Spokane, WA. It is generally accpeted that electric resistive heat is 100% efficient, 90% gas efficiency was chosen as that is the minimum efficieny required to qualify for an incentive through our prescriptive HVAC incentive program.

Fuel Heating Value	
Electric(BTU/KWH)	3,412
Natural gas (BTU/Therm)	100,000

Fuel Costs	
Electric ($/KWH)	0.1008
Electric Monthly service charge	$8.50
Natural gas ($/Therm)	0.8462
Gas Monthly service charge	$9.00

Equipment Information		
	Efficiency	Fuel Type
Existing	100.0%	Electric
Proposed	90.0%	Natural Gas

User Input Cells
Calculated Cells

Equipment Energy Usage				
	Fuel Usage	Cost	BTU's consumed	BTU's delivered to home
Existing (KWH)	14,308	$1,544.25	48,818,896	48,818,896
Proposed (Therm)	542.4	$567.02	54,243,218	48,818,896
Annual Savings:		**$977.22**		
Annual Savings %:		**63.3%**		