BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-10\_\_\_\_\_\_

DOCKET NO. UG-10\_\_\_\_\_\_

DIRECT TESTIMONY OF

DON F. KOPCZYNSKI

REPRESENTING AVISTA CORPORATION

# I. INTRODUCTION

1. **Please state your name, employer and business address.**
2. My name is Don F. Kopczynski and I am employed as the Vice President of Transmission and Distribution Operations for Avista Utilities, at 1411 East Mission Avenue, Spokane, Washington.
3. Would you briefly describe your educational background and professional experience?
4. Yes. Prior to joining the Company in 1979, I earned a Bachelor of Science Degree in Engineering from the University of Idaho. I have also earned a Master’s Degree in Engineering from Washington State University and a Master’s Degree in Organizational Leadership from Gonzaga University. Over the past 31 years I have spent approximately 17 years in Energy Delivery, managing Engineering, various aspects of Operations, and Customer Service. In addition, I spent three years managing the Energy Resources Department, including Power Supply, Generation and Production, and Natural Gas Supply. I have worked in the areas of Corporate business analysis and development, and served in a variety of leadership roles in subsidiary operations for Avista Corp. I was appointed General Manager of Energy Delivery in 2003 and Vice President in 2004. I serve on several boards, including the Washington State Electrical Board, Northwest Gas Association, American Gas Association, Common Ground Alliance and the Washington State University Engineering Advisory Board.

## Q. What is the scope of your testimony?

A. I will provide an overview of the Company’s electric and natural gas energy delivery facilities and operations. I will also explain some of our efforts to control costs, increase efficiency, and improve customer service, as well as summarize Avista’s customer support programs in Washington. A table of the contents for my testimony is as follows:

Description Page

I. Introduction 1

II. Overview of Avista’s Energy Delivery Service 2

1. Cost Control and Efficiency Efforts 5
2. Customer Support Programs 9

**Q. Are you sponsoring any exhibits in this proceeding?**

A. Yes. I am sponsoring Exhibit No.\_\_(DFK-2) and Exhibit No.\_\_(DFK-3). Exhibit No.\_\_(DFK-2) shows the detailed usage and number of customers for each customer class. Exhibit No.\_\_(DFK-3) is a 2009 study performed through Eastern Washington University addressing heating assistance programs in our service area. These exhibits were prepared under my direction.

**II. OVERVIEW OF AVISTA’S ENERGY DELIVERY SERVICE**

**Q. Please describe Avista Utilities’ Washington electric and natural gas utility operations.**

A. Avista Utilities operates a vertically-integrated electric system. In addition to the hydroelectric and thermal generating resources described by Company witness Mr. Storro, the Company has approximately 8,011 miles of conductor in the following classes in Washington: 275 miles of 230 kV transmission, 924 miles of 115 kV transmission, and 6,868 miles of distribution line at a variety of voltages. The predominant distribution voltage is 13.2 kV. Avista owns and maintains a total of 3,446 miles of natural gas distribution lines in the state of Washington, and is served off of the Williams Northwest and Gas Transmission Northwest (GTN) pipelines. A map showing the Company’s electric and natural gas service area in Washington is provided by Company witness Mr. Morris at page 2 of Exhibit No. \_\_\_(SLM-2).

As detailed in the Company’s 2009 Electric Integrated Resource Plan (IRP), Avista expects retail electric sales growth to average 1.7% annually for the next ten years and 1.7% over the next twenty years in Avista’s service territory, primarily due to increased population and business growth. In 2008, Avista had 4,493 new electric customer connections[[1]](#footnote-1) and 3,350 for 2009. A copy of the Company’s 2009 Electric IRP has been attached as Exhibit No.\_\_\_(RLS-2).

Also, based on Avista’s 2009 Natural Gas Integrated Resource Plan, in Washington/Idaho the number of customers were projected to increase at an average annual rate of 2.2%, with demand growing at a compounded average annual rate of 1.0%. New natural gas customer connections were 4,797 in 2008 and 3,362 in 2009. A copy of the Company’s 2009 Natural Gas IRP has been attached as Exhibit No.\_\_\_(KJC-4) to Mr. Christie’s testimony.

## How many customers are served by Avista Utilities in Washington?

A. Of the Company’s 356,620 electric and 316,350 natural gas customers (as of December 31, 2009), 234,243 and 146,743, respectively, were Washington customers. Avista’s largest electric customer in Washington is the Inland Empire Paper facility in the Spokane Valley.

**Q. Please describe the Company’s operations centers that support electric and natural gas customers in Washington.**

A. The Company has construction offices in Spokane, Colville, Chewelah, Othello, Ritzville, Pullman, Clarkston, Deer Park, and Davenport. Avista’s four customer contact centers in Spokane, Washington, Coeur d’Alene and Lewiston, Idaho, and Medford, Oregon are networked, allowing the full pool of regular and part-time employees to respond to customer calls in all jurisdictions.

1. **What construction and maintenance programs does the Company have in place to maintain natural gas and electric facilities?**
2. The Company utilizes seasonal and regular crews for natural gas and electric construction, including new and reconstructed lines, damage repair, and connecting new customers. The Company employs contract crews and temporary and part-time employees to meet customer needs during the peak construction season. The Company also has several maintenance programs to maintain the reliability of our electric and natural gas infrastructure. On the electric side, this includes the Company’s asset management program (including wood pole inspection and replacement), vegetation management, electric transmission line inspection and reconstruction. Company witness Mr. Kinney discusses this program in more detail.

Regarding natural gas operations, ongoing maintenance focuses on valve and regulator stations, atmospheric and underground corrosion protection, and leak surveys. Natural gas operations performs necessary maintenance required by the US Department of Transportation Pipeline Safety Regulations, 49 CFR, Part 192. Emergency valves are inspected and maintained to make sure they are accessible for operation, they turn satisfactorily, and are identified properly. Atmospheric Corrosion Inspection is performed on all of our above-ground piping facilities at least every three years. To levelize the workload, approximately one third of our system is maintained annually. Piping is inspected to assure it is coated properly to protect against corrosion. Underground corrosion protection surveys are performed annually on underground steel piping. Rectifiers that induce current onto the pipe to supply corrosion protection are inspected six times per year. Additionally, whenever a buried steel pipeline is exposed, crews inspect the pipe for coating deterioration and external corrosion.

Finally, leak Surveys are performed at differing intervals, with facilities in more populated “business districts” inspected annually, and those in less populated residential areas are inspected every five years.

**III. COST CONTROL AND EFFICIENCY EFFORTS**

**Q. Given the current and near-term economic conditions, what actions or specific measures has the Company undertaken to control costs and mitigate the requested rate increase?**

A. As Mr. Morris noted in his testimony, following the energy crisis of 2000/2001, we cut our operating expenses as we worked toward regaining an investment grade credit rating. Since that time we have continued to pay particular attention to limiting the growth in these costs, while meeting important reliability and environmental compliance requirements, and preserving a high level of customer satisfaction.

The measures listed below are among some of the most recent actions we have taken to mitigate the impact of increased costs on our customers:

1. **Limitations on Capital Spending.** For both 2009 and 2010 Avista approved a lower capital budget than was requested by the Company’s Engineering and Operations personnel. The Capital Prioritization Committee reduced the list of projects to be completed by approximately $60 million in 2009, and we have limited our near-term capital budget to approximately $210 million annually (excluding Stimulus Projects[[2]](#footnote-2)).
2. **Hiring Restriction.** The Company continues to operate under a hiring restriction which requires approval by the Chairman/President/CEO, CFO, and Sr. VP for Human Resources for all replacement or new hire positions.
3. **Improvements and Efficiency Initiatives.** Avista Utilities has undertaken a number of improvements and efficiency initiatives throughout our service area that are focused on either increasing customer service and satisfaction, or increasing productivity and reducing operating costs. These measures have served to mitigate the impact on customers of the proposed rate increase. In regard to Information Services, Avista has been, and continues to be, focused on cost effective solutions that meet our customer needs. One way to meet a growing customer demand for transaction choices is through the appropriate use of technology. Most recently, Avista has focused on reducing customer transaction costs through the use of technology, such as the Outage Management Tool (OMT) which enables a customer to report outages without talking to a representative.

**Q. Did the Company initiate a number of cost management initiatives in the years just prior to the recent downturn in the economy?**

A. Yes. Avista’s efforts to control its costs have not been prompted solely by the most recent downturn in the economy. We have continually revisited our costs and operating practices over time in order to mitigate price increases for our customers. A sampling of other measures that we had already taken prior to the downturn in the economy include the following:

* Retirees are now picking up the full premium increases on the health insurance coverage. A few years ago retirees under age 65 were paying 10% of the health insurance premiums and now they pay 50% on average.
* The Defined Benefit Pension Plan’s benefit formulas were reduced (approximately 28%) for all new hires effective January 1, 2006 and forward. This applies to all new hires except those in the IBEW Local #77 Bargaining Unit.

* Bargaining units wages were kept in line with neighboring investor-owned utilities and PUDs.
* Normally Avista will bring on about 15 to 18 temporary groundsmen in the Spring to assist in the construction work for the remainder of the year. This pool of people helps us manage through the construction season with new developments that take place from April to December. We use this pool of people to select upcoming line apprentices in anticipation of future retirements. Due to the downturn in the economy and the lack of new construction projects, the Company decided to not hire temporary groundsmen for the year unless a specific project would dictate a need for one or two people. The savings for 2009 was approximately $700,000. Assuming a more normal construction season in 2010, we will be back to our normal practice and bring on the groundsmen for the construction season. Therefore, the savings to the Company was short term versus an annual on-going savings.
* Additionally, regarding our natural gas operations, approximately 10% of our natural gas construction workforces are classified as “seasonal.” Seasonal and temporary employees are let go at the end of the construction season and brought back in March or April as construction starts to ramp up. In 2009, we delayed bringing back these employees due to the downturn in construction and won’t re-employ these workers unless construction activity improves. Again, these saving occurred in 2009 and are not anticipated to carry over into 2010 unless the economy and construction continues to be slow.
* Starting in 2007 the Company has also realized further efficiencies in employee training:
	+ Shortened the natural gas apprenticeship time by 12 to 18 months by bringing in advance standing employees who already have the skills and abilities;
	+ Reduced the annual natural gas refresher training required by PHMSA for Operator Qualification through the use of on-line training programs by one full day, and eliminated additional instructor travel time and expense during the remainder of the year. Estimated savings are approx 150 gas employees at 8 hours. The trainer savings for the remainder of the year is 20+ travel days for each of the instructors;
	+ Combined different apprentice training programs in the generation and electric areas to save over 100 hours of instructor time;
	+ Utilized retired craft employees for pre-apprentice line school and other apprentice program training, saving benefit costs and utilizing flexible hours;
	+ Provided an on-site physical therapist to shorten medical treatment time for employees as well as reduce time away from work for medical appointments.
* The Company has increased shift coverage company-wide for natural gas and electric servicemen for after (normal) hour’s calls. This provides for more prompt call response at lower cost (straight time versus overtime).

These programs are just examples of the extensive efforts of Avista to identify and implement efficiency measures and/or productivity across the organization, while continuing to provide quality service to customers.

Avista also has a number of ongoing process improvement measures related to customer service that have provided savings and efficiencies as described below.

* Avista’s Customer Service Analyst Team constantly challenges themselves to find ways to improve the business without compromising customer satisfaction. Initiatives such as automating address returns with the US Postal Service, reviewing collection notice parameters, implementing email management processes, improving system response time, designing a comprehensive screen view, ebill promotions and other miscellaneous improvements resulted in over $1 million of productivity savings from 2004-2009. Examples included within the $1 million in savings include options that give customer more choices such as:
	+ E-bill – 66,582 customers enrolled – Savings $.50 per bill per month.
	+ Web payment process – reduced company cost from $.80 to $.10 per transaction – 50,000 transactions per month.
	+ In mid-2009, Avista implemented its new Enterprise Voice Portal (EVP) System. The new EVP system replaced the Company’s old Integrated Voice Response (IVR) system, installed in 1997, which was no longer being supported by the vendor. The old IVR and new EVP systems handled 735,000 customer calls in 2009 (approximate offset of 38 FTE’s). This is 43.3% of the total inbound calls into Avista. For the first two months in 2010, the EVP system handled 124,682 calls; this represents 47.3% of inbound calls to Avista. The new EVP system has several new features that will increase customer self service capabilities and improve customer satisfaction.

 The following table shows that the avoided labor savings from the IVR/EVP system from 1998 through 2009 totals $17.5 million:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **IVR/EVP Handled Calls** | **FTE Equivalent** | **Approximate Labor Savings** | **Significant Changes** |
| 1998 |  84,889  | 5.1 |  $ 270,416  | Added Account Recap self-service |
| 1999 |  158,353  | 9.6 |  $ 504,437  |  |
| 2000 |  214,828  | 13.0 |  $ 684,339  |  |
| 2001 |  294,609  | 17.8 |  $ 938,483  | Added Payment Arrangement self-service |
| 2002 |  343,120  | 20.7 |  $ 1,093,016  |  |
| 2003 |  443,195  | 26.7 |  $ 1,411,807  | Added Electronic Payment self-service |
| 2004 |  402,071  | 24.3 |  $ 1,280,805  |  |
| 2005 |  530,748  | 22.0 |  $ 1,854,079  | Enhanced Payment Arrangement self-service |
| 2006 |  600,730  | 34.2 |  $ 2,098,550  |  |
| 2007 |  624,823  | 30.5 |  $ 2,182,715  |  |
| 2008 |  682,797  | 36.2 |  $ 2,348,822  |  |
| 2009 | 735,938 | 38.9 |  $ 2,880,167 | New EVP Implementation June, 2009 |

**IV. CUSTOMER SUPPORT PROGRAMS**

**Q. Please explain the customer support programs that Avista provides for its customers in Washington.**

 A. Avista Utilities offers a number of programs for its Washington customers, such as the Low-Income Rate Assistance Program (LIRAP), energy efficiency programs, Project Share for emergency assistance to customers, a Customer Assistance Referral and Evaluation Service (CARES) program, senior programs, level pay plans, and payment arrangements. Some of these programs will serve to mitigate the impact on customers of the proposed rate increase. Avista is also actively involved in supporting community human services programs that provide tools and resources for individuals and families who face challenges in meeting the basic costs of living, which often includes the cost of energy. Through philanthropic contributions and employee community outreach efforts, we support programs that help increase financial stability or provide basic resources like food and clothing. Avista is a strong supporter of United Way in Washington, providing corporate and employee support for the human services agencies in our service territories.

**Q. Has the Company done any recent research with regard to seniors and limited income customers it serves?**

 A. Yes. Avista, along with the low income and senior/vulnerable advocates, has long sought to understand the reach and effectiveness of energy assistance and energy efficiency programs. The challenge has been how to estimate with more certainty the level of need for the purpose of assessing program size and design. Having more definitive data on the type of unmet need could also inform policy discussions related to programs that serve to provide direct grant assistance or programs that reduce energy use, such as energy efficiency or energy conservation education.

 In 2009, Avista commissioned a study by the Institute for Public Policy and Economic Analysis at Eastern Washington University. The Study is attached as Exhibit No.\_\_\_(DFK-3). The purpose of the study was “Assessing Heating Assistance Programs in Spokane County”.[[3]](#footnote-3) As noted in that report, the study examined “the recent experience of the two largest heating assistance programs in Spokane County: the federal Low Income Home Energy Assistance Program (LIHEAP) and the Avista Utilities tariff-funded Low Income Rate Assistance Program (LIRAP). The study’s central goal was to assess the reach of these programs among the eligible population.”[[4]](#footnote-4) The study provided the following key findings:

1. The average heating burden (heating costs divided by total household income) for a household in the US is 1.3%.[[5]](#footnote-5)
2. The average heating burden for households in Spokane County is 1.4%, very close to the US average.[[6]](#footnote-6)
3. The average gross heating burden for low-income customers (defined as those customers assisted by Spokane Neighborhood Action Programs, or SNAP, which uses the 125% of the federal poverty guideline) is 6.1%.[[7]](#footnote-7)
4. The average net heating burden for low-income customers is 1.4% (net being defined as heating costs less energy grants, divided by total income).[[8]](#footnote-8)
5. In 2009, the report shows that 30% of eligible households were assisted by SNAP. This is much higher than the national average of 16%.[[9]](#footnote-9)

In short, this report demonstrates that limited income customers served by SNAP have a net energy (heating) burden that is not much different than the average household in Spokane County.

Avista’s LIRAP program, now in its eighth year, is key in reaching this population with energy assistance. I will provide more detail further in my testimony regarding the LIRAP program.

**Q. How will the results of this Study be distributed and used?**

A. The study results are being provided to organizations and individuals that have involvement and interest in energy assistance or energy efficiency programs for these population sectors. Organizations include Community Action Agencies, the Washington State Department of Commerce, State and Federal legislators, low-income and senior advocate organizations, and other interested organizations.

**Q. What is the Company doing to help customers manage their energy bills?**

A. In addition to the many efforts the Company has made to control costs and improve operating efficiencies, the Company works hard to build lasting ways to help customers in managing their energy bills. Avista is committed to reducing the burden of energy prices for our customers most affected by rising energy prices, including low income individuals and families, seniors, disabled and vulnerable customers. To increase our customers’ ability to pay, the Company focuses on actions and programs in four primary areas: 1) advocacy for, and support of energy assistance programs providing direct financial assistance; 2) low income and senior outreach programs; 3) energy efficiency and energy conservation education and 4) support of community programs that increase customers’ ability to pay basic costs of living. The following are examples of these outreach programs to customers:

* Gatekeepers Program: Avista has implemented the Gatekeepers Program, a program that trains field personnel to be aware of signs that a customer may be having difficulty with daily living tasks (e.g., paper or mail not collected, disheveled appearance, etc). The CARES representatives conducted training of company-wide field personnel who come into contact with residential customers on a regular basis. In the event employees identify a customer having difficulty, the employee is asked to notify the CARES representatives who would contact appropriate community resources for assistance.
* Senior Energy Outreach: Avista has developed specific strategic outreach efforts to reach our more vulnerable customers (seniors and disabled customers) with bill paying assistance and energy efficiency information that emphasizes comfort and safety.
* Senior Publications: Avista has created a one-page advertisement that has been placed in senior resource directories and targeted senior publications to reach seniors with information about energy efficiency, Comfort Level Billing, Avista CARES and energy assistance. A brochure with the same information has also been created for distribution through senior meal delivery programs and other senior home-care programs.
* Power to Conserve: In partnership with KREM television, a half-hour television program is annually developed that covers low-cost and no-cost ways to save energy at home. The goal of the program is to help limited income seniors and other vulnerable populations with their energy bills by providing home energy conservation education. The program provides helpful energy conservation tips, information on community resources and ways for customers to manage their energy bills. A DVD of the program has also been produced which is included as part of energy conservation kits provided in senior conservation workshops.
* Senior Energy Workshops: Energy efficiency workshops that focus on comfort and safety as well as the wise use of energy have been specially designed for the senior population. Kits are provided that contain energy-saving items such as compact fluorescent light bulbs, draft stoppers, rope caulking, etc. The Power to Conserve program DVD along with energy efficiency tip sheets are also included in the kit. Workshops are held at senior meal sites, senior centers and other senior support locations.
* KHQ.com. - Caregivers Resource: Avista sponsors the Caregivers Resource page on KHQ’s Senior Life website in order to reach seniors and caregivers with a wide variety of resource information including energy efficiency, energy assistance information, Avista CARES, bill paying assistance, etc. Several video clips offer low-cost, and no-cost energy saving ideas.

**Q. Please describe Avista Utilities’ demand-side management (DSM), or energy efficiency programs.**

A. The Company’s innovative Energy Efficiency Tariff Rider approved by the Commission was the country’s first distribution charge to fund DSM, and is now replicated in many other states. It has provided consistent funding for the delivery of energy efficiency services. Company witness Mr. Folsom provides more detail about Avista Utilities’ extensive energy efficiency services.

**Q. What is the Company’s Low Income Rate Assistance Program, or LIRAP?**

A. The low-income rate assistance program, proposed by the Company and approved by the Washington Commission in 2001, collects approximately $4.1 million (natural gas and electric combined) per year through electric and natural gas tariff surcharges on Schedules 91 and 191. These funds are distributed by community action agencies in a manner similar to the Federal and State-sponsored Low Income Home Energy Assistance Program (LIHEAP). The purpose of the LIRAP program is to reduce the energy cost burden among those customers least able to pay energy bills.

1. **Please describe the recent results of the Company’s Project Share efforts?**

A. Project Share is a community-funded program Avista sponsors to provide one-time emergency support to families in the Company’s region. Avista customers and shareholders help support the fund with voluntary contributions that are distributed through local community action agencies to customers in need. Grants are available to those in need without regard to their heating source. Avista Utilities’ customers donated $302,300 on a system basis in 2009, of which $182,634 was directed to Washington Community Action Agencies. In addition, the Company contributed $288,200 to Washington customers in 2009.

 **Q. Does the Company offer other bill-assistance programs?**

A. Yes. In these challenging times, more customers have been finding it more difficult to pay their monthly energy bill. In an effort to assist and educate customers about options such as Comfort Level Billing, Payment Arrangements, and Preferred Due Date, we developed a campaign encouraging customers to learn about and enroll in the various bill assistance options available to them. This campaign was launched in March 2009 in both Washington and Idaho. It explained how Comfort Level Billing helps smooth out the seasonal highs and lows of customers’ energy usage and provides the customer the option to pay the same bill amount each month of the year. This allows customers to more easily budget for energy bills and avoid higher winter bills. This program has been well-received by participating customers. Over 46,030, or 18%, of Washington electric and natural gas customers are on Comfort Level Billing.

In addition, the Company’s Contact Center Representatives work with customers to set up payment arrangements to pay energy bills, and choose a preferred due date. In 2009, 71,156 Washington customers were provided with over 167,300 such payment arrangements.

Q. Please summarize Avista’s CARES program.

A. In Washington, Avista is currently working with over 3,526 special needs customers in the CARES program. Specially-trained representatives provide referrals to area agencies and churches for customers with special needs for help with housing, utilities, medical assistance, etc.

 Q. Have these programs helped mitigate the impact on customers in need?

 A. Yes. In the 2008/2009 heating season, in addition to LIRAP, 13,420 Washington customers received $6,213,191 in various forms of energy assistance (Federal LIHEAP program, Project Share, and local community funds). On September 30, 2008, President Bush signed legislation that provided $5.1 billion for the Low Income Home Energy Assistance Program (LIHEAP) for the 2008/2009 heating season. This increased funding was to serve an additional 2 million households and raise the average grant from $355 to $550 and also allow states to carryover any funds remaining to the next year’s heating season. Washington’s share of the LIHEAP funding was increased from $40,450,000 to $74,603,000.

 On December 16, 2009, **President Obama signed an omnibus appropriations bill that continued to provide $5.1 billion in funding for the Low Income Home Energy Assistance program for the current fiscal year. The LIHEAP funding includes $4.5 billion in formula funds and $590 million in contingency funding. LIHEAP and many other government programs had been operating under funding provided through a continuing resolution that was set to expire December 18, 2009.** Washington’s share of the LIHEAP funding was increased from $74,603,000 to $78,593,534. This bill also provided increased funding for weatherization assistance programs. These programs and the partnerships we have formed have been invaluable to customers who often have nowhere else to go for help.

 Q. Can you please describe how the Company measures customer satisfaction, and how important it is to Avista?

A. Yes, our customer satisfaction is very important to Avista. We measure satisfaction by doing a quarterly survey we refer to as the “Voice of the Customer” (VOC). The purpose of the VOC Survey is to measure and track customer satisfaction for Avista Utilities’ “contact” customers – customers who have contact with Avista through the Call Center and/or work performed through an Avista construction office. Avista Utilities’ company goal for customer satisfaction is measured by this Survey.

 Customers are asked to rate the importance of several key service attributes. They are then asked to rate Avista’s performance with respect to the same attributes (time for connection to a representative, representative being courteous and friendly, representative being knowledgeable, being informed of job status, leaving property in condition found, etc.) Customers are also asked to rate their satisfaction with the overall service received from Avista Utilities. Customer verbatim comments are also captured and recorded.

 Our most recent fourth quarter 2009 customer survey results show an overall customer satisfaction rating of 94% in our Washington, Idaho, and Oregon operating divisions. This rating reflects a positive experience for the vast majority of customers who have contacted Avista related to the customer service they received.

1. **Does this conclude your pre-filed direct testimony?**

A. Yes.

1. A new customer connection as defined by Avista is when a customer receives a bill for the first time at a particular premise/location. [↑](#footnote-ref-1)
2. Avista was awarded matching grants from the U.S. Department of Energy for two “Smart Grid” projects. One project will upgrade portions of the utility’s electric distribution system to smart grid standards in Spokane, Washington and the other project is a demonstration project in Pullman, Washington that involves automation of many parts of the electric distribution system using advanced metering, enhanced utility communication and other elements of smart grid technologies. [↑](#footnote-ref-2)
3. “Assessing Heating Assistance Programs in Spokane County”, Institute for Public Policy & Economic Analysis (Grant Forsyth, PhD, D. Patrick Jones, PhD, and Mark Wagner). January 2010. [↑](#footnote-ref-3)
4. id., Page 1 [↑](#footnote-ref-4)
5. id., Page 2 [↑](#footnote-ref-5)
6. id., Page 2 [↑](#footnote-ref-6)
7. id., Page 3 [↑](#footnote-ref-7)
8. id., Page 3 [↑](#footnote-ref-8)
9. id., Page 3 [↑](#footnote-ref-9)