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Public Utilities Commission of Nevada: A research design for data collection

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Public Utilities Commission of Nevada

A research design for data collection

University of Nevada, Las Vegas

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5/5/2011

Table of Contents

Executive Summary	3
Introduction.....	5
Historical Background.....	6
Conceptual Framework	9
Factors affecting Public Utilities	10
Smart Meters.....	10
Dynamic Pricing	13
Environment	15
Factors Affecting Low-Income and Elderly Populations.....	16
Financial Considerations.....	17
Factors of Energy Consumption	17
Purpose.....	19
Research questions.....	20
Research Design	21
Survey	22
Expected Results.....	23
Recommendations.....	23
Data Collection Methodology.....	24
Educating the Public	26
Case Procedure Development	26
Limitations	27
Appendix	30
References	31

Executive Summary

The Public Utilities Commission of Nevada (PUCN) has struggled to form ways and/or develop a system in which reliable data can be collected to benefit the Commission and its consumers. This type of data is crucial in order to structure fact-based opinions and make sound decisions that will affect the public. Since the PUCN does not have the resources or time to develop such a system, the Masters of Public Administration (MPA) group was assigned with creating a system that could potentially be implemented to collect said data. The group developed a research design model, for which an extensive survey was constructed. Although no analysis has yet been performed, the model that was created should serve as a good starting point as well as an excellent tool that will eventually lead to hard data, as well as results that will be beneficial for all parties involved.

With particular emphasis on seniors, and even more so on low-income seniors, the group had to design a survey that could be utilized and performed by either a group of volunteers, or ideally, by another semester's MPA group. Under the supervision and guidance of the PUCN, these surveys would hypothetically be administered to seniors who fit the target population group. Surveys will assist in identifying specific factors and also narrow down issues and themes that are important to the population. Along with addressing these important topics, and perhaps most importantly, the survey and research methods will generate concrete data that the PUCN staff can use to when

making certain determinations.

Along with the survey details and the framework on how to produce the data, a few recommendations were also outlined. One of the recommendations was to offer more literature regarding energy conservation tips. Although it might seem obvious and simple, tips can be very useful for seniors who might otherwise not know about certain aspects of their consumption, which are definitely affecting the amount they are spending. Educating the public is a basic, yet important tool that can be used and should be explored more often by every organization. In a brochure that could be mailed to its recipients, new regulations should be described in a way that a reasonable person could understand them. Often times, people become confused with terminology and/or complicated charts that might be put together.

Additionally, a description of the Consumer Bill of Rights could also be summarized to ensure that people know their rights and know how to exercise them. Lastly, different resources for assistance would also be compiled and given to seniors, in order for them to know where to turn to in time of need.

Finally, the MPA group is recommending the development of a set procedure for PUCN staff to follow when a new case is assigned to the commission. Using an example from Oregon state, the PUCN could develop a policy that will lead to enhanced decision making that is consistent and can withstand criticisms. As energy companies are faced with additional regulations and consumers become more energy smart, rates will continue to be affected and PUCN's roles within our state will be more important.

Introduction

The Public Utilities Commission of Nevada (PUCN) established by state law in 1911 is an independent body charged with supervising and regulating the operation and maintenance of all public utilities in Nevada. This includes such organizations as NV Energy and Southwest Gas. In all it regulates nearly 400 gas, electric, telecommunications, water, and wastewater utilities in Nevada, along with gas pipeline and railroad safety issues. With this responsibility, they largely oversee consumer complaints as well as grant rate increases that utilities want to impose. A greater part of their regulation comes from analyzing the effect of various regulations and rate issues on the consumers of public utilities.

The PUCN must find a way of balancing the interests of both customers and utilities. It attempts to do this by providing customers with just and reasonable rates as well as by providing utilities with ample opportunities to earn a fair return on their investments. The PUCN has to deal with customers' complaints and disputes, just like any other regulating body. Currently, there is no set procedure being followed to ensure accuracy in this area. The PUCN has the need to develop a system in which reliable data can be collected for the low-income and elderly population, which would serve as evidence and a reference point for the PUCN staff.

In an attempt to produce sound data, a research design study has been developed, in which a survey is to be administered to the target population. This survey will help determine specific factors that the population feels need to be addressed, as

well as produce hard data that PUCN staff can refer to. Survey data, a rate matrix for comparison reviews, as well as energy conservation tips, in an attempt to educate the public, are some of the recommendations issued.

Historical Background

Officially, the Public Utilities Commission of Nevada (PUCN) was established in 1997; however, the regulation of public utilities has been a part of the Nevada infrastructure since 1911. “In 1911 the Nevada Legislature directed that the Railroad Commission serve ex officio as a Public Service Commission. This body was given wide authority to regulate the rates and practices of public utilities, the latter being defined as those businesses producing or furnishing “heat, light, power in any form or by any agency, water for business, manufacturing, agricultural or household use, or sewerage service...” The law specifies that the utilities had “to furnish reasonably adequate service and facilities.” The law prohibits rebates and rate discrimination. Until 1997, the Commission existed with this loose definition of responsibility. Although the PUCN is an official force in the energy arena, they continue to learn how to juggle the needs and wants of many constituents. Despite this, they maintain the work of their mission in regulating properly, not in maintaining their political stance. They continue to work to improve their practices to ensure they do what is possible to protect the needs of consumers and utilities alike, while still operating within their given jurisdiction.

As a result of this delicate balancing, concerns have arisen in response to the commission. One serious matter was the perception of the Commission, and that is that

it is more responsive to the large utilities than to the public. As a result, the PUCN had to take steps to clearly define what its purpose is. This definition has changed throughout its history (even prior to the official forming of the commission in 1997). Historically, the stated mission of the PUCN has changed little.

- **1988-** The Commission stated that its goal was to ‘ensure that Nevadans receive safe, dependable, and reliable utility service at a fair cost.’
- **1994-** amended to include wording related to ensuring utilities getting a fair return on investment.
- **Today-** the stated mission of PUCN is to “Supervise and regulate the operation and maintenance of utility services in Nevada” (PUCN Website, 5 May 2011)

The PUCN carries out this mission through a variety of efforts. Generally, utilities are regulated to guarantee fair rates and satisfactory service is provided. It is the Division of Consumer Relations that was established by law to hear and resolve complaints (Public Service Commission). Then there is the Energy management division that was made responsible for “energy demand and supply alternatives” (Public Service Commission). There was a need for regulation in each state, in order for harmonious democracy to exist, in order to “prohibit unfair practices”, deal with “grievances” and address the general issues with the utilities that are in Nevada. Additionally, the PUCN makes the utilities liable for risks, accidents and mistakes on their part, ensures rates are “reasonable and just” and conducts investigations as

necessary. Ultimately PUCN, like any other commission, exists to serve the best interest of the public, which does include the utility companies and how their business relates to the consumers in Nevada.

Of primary concern for the PUCN, are “reasonable and just” rates. Historically, the Commission considers two factors when reviewing rate adjustments. First, what is the lowest reasonable rate; and secondly, will the utility maintain financial stability. In rate decisions, there is a process that is followed by the commission: formal investigation, consumer sessions, and the formal commission hearing.

To further assist in carrying out its mission, PUCN has established a Consumer Bill of Rights “... designed to obtain utility services and to keep those services on.” The Bill of Rights recognizes that utilities provide vital services which must be made available to all. See exhibit 1.

Exhibit 1.

The Consumer Bill of Rights:

- ◆ Eliminates deposits unless the customer has poor credit history.
- ◆ Limits the size of the deposit and allows for installment payments.
- ◆ Requires utilities to offer a “budget billing”¹⁰ program.
- ◆ Requires payment plans for needy customers.
- ◆ Offers special protection for the elderly and handicapped.
- ◆ Postpones service termination when health is at risk.
- ◆ Provides third-party notice prior to service termination.
- ◆ Allows customers to apply for service via phone or mail.

The PUCN is the locus of oversight responsibilities for regulated Nevada utilities. The agency has both investigative and enforcement powers. PUCN responsibilities for the UEC include collections, refunds in accordance with legislative provisions, and investigation and enforcement of collections matters as necessary. Because collections have proceeded smoothly, there has been no need for the PUCN to exercise its investigative or enforcement powers through the close of SFY 2010 (Peach et. Al, 2011). The motivating idea has been a belief among some public policymakers that market forces are more efficient than governmental regulation in securing lower prices and fostering innovative new technologies (Public Utilities and Energy).

The authority of these entities may overlap and lines of demarcation between them may become blurred. Electric utilities are one of the most important types of public utility. They have traditionally been highly regulated but, in recent decades, have experienced varying degrees of deregulation (Public Utilities and Energy).

Conceptual Framework

The Public Utilities Commission of Nevada (PUCN) must balance the needs of consumers with the needs of the public utilities which it regulates. This task is difficult at best due to the various factors that affect each. In particular, utilities are seeing increased demand for lower rates and “green” practices, meanwhile, consumers, particularly low-income and elderly populations have significant burdens that are only

increased as energy rates are increased. To better understand the position of the PUCN, we explored a few of these factors.

Factors affecting Public Utilities

A large part of the “business” of the PUCN involves requests by utilities to increase rates. In these instances, the PUCN has the authority to grant or deny rate increases through a formal hearing process; however these cases are also analyzed by the Bureau of Consumer Protection. While rate adjustments are necessary for utility companies to recoup monies invested, they also should not harm the consumer by placing undue hardship. Public utilities are faced with demands of utilizing “green” technology and improving service to consumers. In particular in Nevada, a new Advance Service Delivery program, Dynamic Pricing and Environmental regulations are affecting rates for consumers.

Smart Meters

In 2010, NV Energy began the Advanced Service Delivery system with rollout of “Smart meters”. These meters are being placed in 10,000 homes in the Las Vegas market as a trial, although it is expected these new meters will replace all meters in Nevada in the near future. Smart meters are a benefit to the utility companies because they do not require manual readings, allow instantaneous connect/disconnects, and allow real-time usage data. NV Energy estimates they will save \$35 million annually in operational costs – savings, which will be passed to consumers.

Smart meters, around the country and around the globe are in use with mixed results. Questions regarding Smart meters include:

1. Whether the technology is mature and reliable.
2. Whether consumers will “buy in” (although they don’t really have a choice).
3. Whether NV energy has crafted effective consumer pricing and cyber security protections.
4. Whether remote disconnects will threaten consumer health and safety.
5. The disconnect rate—currently set as more than \$50 owing and 30 days past due—and its affect on the Consumer Bill of Rights.
6. Whether the Smart Meters and related programs erode consumer protections.
7. The initiative’s costs and budget risks
8. Health and safety risks that have been associated with the meters’ installation

Of primary concern is the reported substantial increase in utility rates in many markets. Consequently, these increases have led to questioning of the meters’ accuracy, although utilities will argue they give consumers increased control over their energy usage. The Public Utilities Commission in Texas commissioned an independent study conducted by Navigant Consulting. The findings were released in a lengthy report on July 30, 2010. The study found that 99.96% of the meters were accurate (Carson,

2010). The study examined both the meters themselves and the infrastructure involved. Meters found to be running too fast were traced to faulty soldering in circuit boards. A failed current transformer was responsible for meters running too slow. Navigant recommended that the meters be aggressively monitored, that the utilities keep detailed records on hardware and firmware, and that root cause analysis be conducted on any meters with potential problems. Problem meters were replaced in that market (Navigant, 2010). Last winter, where utility bills doubled and tripled in Killeen, Texas, Oncor blamed the unusual weather patterns on increases (Persinger, 2010).

Safety concerns also exist with the use of Smart meters. In many markets, electrical problems have caused Smart meters to be linked to several fires. The RFI emitted can conflict with ground fault circuit interrupters and arc fault circuit interrupters according to PG&E reports, and there have been a few explosions reported (Smart Meters Fires).

Health related concerns have halted the installation of Smart meters in some parts of California. Electromagnetic waves have been linked to sleep disorders, irritability, headaches, anxiety, memory loss, nausea, DNA breaks, abnormal cell growth, cancer, premature aging, depression, suicide, cardiovascular issues, and reproductive problems, among other health problems. The FCC does not require that the absorption rate to the body be measured because the meters are more than 20 centimeters away from the body (Kahn, 2011).

Despite these concerns, benefits of Smart meters still appear to outweigh the risks. They provide consumers greater access to detailed information regarding power usage,

using in-home displays that provide real time information and can allow consumers to adjust activities that cause surges in power during critical times. The information is easily accessible, and some companies even provide automatic alerts when usage exceeds a predetermined limit. Self service allows for faster connections and disconnections of service, as well as faster service restoration and outage detection (NV Energy). Additionally, the new meters allow for new types of pricing structures which reportedly can save consumers on their utilities.

Dynamic Pricing

Dynamic pricing gives consumers more control over their utility bill by providing price signals for consumers to adjust usage during peak times. The goal is to reduce the peak demand and lower power generation costs (Brattle, 2009). There are several options currently being explored in Nevada.

- **Real-time pricing** is a form of dynamic pricing in which consumers pay prices that are linked to wholesale prices and are updated hourly or sub-hourly. This is the most pure form, but also the hardest to predict. Georgia has used real time pricing with their largest consumers successfully. For smaller residential and commercial consumers, it is not considered appropriate (Brattle, 2009).
- **Critical Peak Pricing (CPP) and Peak Time Rebates (PTR)** rates are based on the most critical 100-200 hours per year. With PTR, a baseline is established and consumers must try to stay below the baseline in order to

receive the rebate. After this critical time has passed CPP markets give a lower rate for the remainder of the year, based on cost, while PTR markets' consumers receive a rebate for each kWh that they reduce during the baseline for CPP hours. Those who do not reduce power usage end up paying the rebates for those that do (Brattle, 2009). These methods attempt to convey the true cost of power generation, but are the least popular.

- **Time of Use pricing (TOU)**, the most common form of dynamic pricing, bases prices on fixed rates during “peak” and “off peak” times. Peak times are generally the hottest times of the day during the hottest months of the year (Brattle, 2009). An added benefit of TOU pricing is it is not market based, consequently, many do not consider this a “true” dynamic pricing option (Owens). Although, Brattle argues “TOU rates do help lower peak loads, reduce the need for peaking capacity, and encourage the installation of devices such as thermal energy storage which would yield permanent changes in load shapes” (Brattle, 2010).

Dynamic pricing works to alleviate risk assumed by utility companies which in turn translates to lower rates. Under flat rates (the most widely used pricing structure currently) utility companies assume all the risk associated with a volatile wholesale market. This is more expensive to consumers, as utility companies must charge a premium to defer some of this risk. With dynamic pricing (aka real-time pricing), all of the risk of the market falls to the consumer. Arguably, if consumers are shouldering

more of the risk associated with the market and are more aware of their energy usage, the per-unit rates will decrease and thus decrease total energy costs to them.

Environment

In 2001, the state legislature passed a renewable energy law requiring NV Energy increase renewable energy generation from 12% in 2010 to 15% in 2012 and to 25% by 2025. This will require many changes to infrastructure and will certainly impact pricing. The cost of “greener” power ranges between 8.6 cents to 13.5 cents per kWh, versus 4 cents average kWh for natural gas generation. NV Energy currently has contracts in place with several companies that operate geothermal projects including solar, geothermal, and photovoltaic power plants, as well as wind farms. The increased cost has raised concerns that this will negatively impact consumers’ utility bills. Advocates argue the cost is minimal and the benefits far exceed the costs. Currently, NV Energy only buys a portion of renewable energy it is offered in order to keep costs down but still comply with the 2001 renewable energy law. Clark County Commissioner Chris Guinchigliani is quoted as responding “Even if it takes a little cost to get things started, down the road it's the best thing for the environment,” (Robinson, 2010). She additionally argues “It also lets us do something with economic diversification and job growth, and it can make us a leader in another way besides entertainment” (Robinson, 2010). She further argues many residential taxpayers and consumer groups benefit from subsidies that keep their bills artificially low so they don’t see the true cost of fossil fuel. Giunchigliani furthers her argument in favor of renewable energy by citing the environmental costs of extracting and burning fossil fuels such as coal. Her argument

for renewable energy lies in the premise of creating a win-win situation for everyone through the compromising of both utilities and consumers.

Another aspect of the environmental factors affecting utility companies is Feed-in Tariffs (FIT). Associated with clean energy, these tariffs have been successful in other countries, and recently went before Nevada Legislation. The anticipated costs, they determined, are minimal with respect to the benefits. With FIT, solar panels could be installed and property owners may benefit not only from the electricity that is created onsite, but in selling the excess to NV Energy. These programs have generally worked well in Europe. In Germany, more than 250,000 jobs were created at a minimal cost (less than \$4.00 per utility bill) (Senate, 2011). Rebecca Wagner of the PUCN noted that although there are costs associated with renewable energy, renewable energy is not the “driving cause of high energy rates in Nevada.”

Factors Affecting Low-Income and Elderly Populations

The PUCN is primarily considered with gathering data as it relates to the target population, defined as low-income and elderly. For the purposes of this project, we defined elderly as a person age 60 or older. Additionally, low-income is defined using the current low-income classifications set by the State of Nevada Aging and Disability Services Division, which is anyone living at or below 150% of the federal poverty level (Appendix 1). In looking at this target population, financial considerations, energy consumption and assistance available are all factors that affect them.

Financial Considerations

The elderly are facing increasing challenges as life expectancy increases and social security benefits decrease. In fact, according to the National Council on Aging, 20% of all seniors live at less than 150% of federal poverty level, currently \$16, 245/year (NCOA, 2011). In addition, only 1.7% of seniors who are eligible for public benefits are enrolled in such benefits and over 1/3 of senior households have no money left over after all essential expenses are paid. Some additional financial considerations of this target population include:

- 28% of all mortgage delinquencies and foreclosures are Americans aged 50 or older.
- 17% of elderly households are food insecure and,
- Health expenses typically consume 15% or more of their income.

With these tough economic circumstances, seniors, particularly low-income seniors, must make tough choices when looking at their monthly expenses. Often, when one essential expense (such as utility costs) increases, they will decrease the amount of money allocated to items such as food or healthcare in order to compensate.

Factors of Energy Consumption

Low income consumers typically have flatter energy load profiles than average consumers; however, they have limited ability to shift their load during the peak hours (Brattle, 2010). Some studies have shown dynamic pricing to be harmful to low income

consumers. Empirical evidence from five studies shows that low income consumers can still benefit from dynamic pricing structures, even without shifting their load profiles. In one study, low-income consumers were actually twice as responsive to higher prices as their counterparts (Owens). Low income consumers actually do shift energy use in response to price signals.

Studies have indicated that low-income consumers were able to reduce their utility bills with dynamic pricing plans and 65% of low-income consumers saw benefits immediately with CPP rates (Brattle, 2010). However, if we further study the energy usage of not just low-income households, but elderly households, will this data be supported? Elderly consumers are more likely to have medical equipment and decreased ability to maintain their appliances. No studies have been conducted to examine the factors of energy consumption of the elderly population. While some similarities can be compared between a non-elderly low income household and an elderly low income household, more research is needed to know what factors might further affect the elderly household from benefiting from dynamic pricing.

The Brattle Group also quoted the results of a similar pricing study conducted by BG&E that concluded:

“While there is mixed evidence on the magnitude of the responsiveness of low income customers relative to other customers, there is strong evidence across these five programs that low income customers do respond to dynamic rates and, in many cases, that response is a load reduction above 10%. Furthermore, even without responding to dynamic rates, a large percentage of low income customers will be immediate beneficiaries of dynamic rates due to their flatter than

average load profiles. These results suggest that when evaluating dynamic pricing, it is important to recognize that such rates are not harmful, and, in fact, may be beneficial to a large percentage of low income customers.” (Brattle, 2010)

These conclusions are promising for low-income households, but what promise do they hold for elderly households? What conclusions can be drawn for them? More importantly, what factors of energy consumption affect the elderly?

Purpose

The Public Utilities Commission of Nevada (PUCN), per James Stover, has a goal of acquiring enough data and statistical information so that for each case the Commissioners review, decisions can be made that are based on sound information and hard data. The Oregon Public Utility Commission is a good example; where in their internal operating guidelines “openness reflects the obligation to make decisions in a visible manner so that the public can have trust that Commission decisions are arrived at in a principled way” (Oregon). And this is a parallel goal of the PUCN. Currently, “the Commissioners are going on deliberations and good faith” (Stover Interview). Our group interviewed James Stover regarding the current issues the commission faces. Through this conversation, one of the prominent areas of concern to commission staff was being able to have hard data related to low-income elderly consumers. The data collected will enable PUCN staff to better analyze the factors of energy consumption of not only low-income households, but also for those of elderly households of which there is no data currently available.

The history section of the paper covers some important points in history and ways in which it is important that the PUCN regulate and make decisions according to the best interest of the “public” consumer, not necessarily the private electric companies. This section also covers how the PUCN makes decisions. It is imperative to know this because this research design was conducted not only to gain data to be utilized for the target population, but to make better, more efficient and correct decisions around specific cases.

Research questions

The overarching question presented by PUCN is “how can they have a better understanding of their low-income elderly consumers”? To answer this question, the UNLV group also came up with some additional questions to be considered. These include:

- How can the PUCN have an understanding of the low-income elderly consumers’ woes?
- Is there a better way for the PUCN to make sound decisions on cases involving Nevada’s low-income, elderly electric customers?
- Do low-income elderly consumers understand when the PUCN makes a decision whether or not they are still benefitting from the decision?
- Will raw data positively affect the low- income, elderly, decision making process for the PUCN?

Research Design

Nevada has a traditional regulated market for electric power. Seven percent of the state's electricity derives from geothermal power plants, and the state is second only to California in geothermal potential (www.apps1). There are different laws and different categories of laws that affect low income, elderly electric consumers in the state of Nevada. How those energy laws and the energy companies will work to make sure the general public is satisfied with what they are receiving as a product at a fair cost that will be determined by the PUCN. Our group is charged with creating a design for an evaluation that will provide general data to the PUCN. The end goal is for the PUCN to be able to make more sound decisions for their elderly, low-income cases. It is important data to be gained by the PUCN, because it is government regulation that ensures their mission is carried out properly.

Based on conversations with James Stover, the low-income elderly complaint cases are not a specific issue for the PUCN, at the moment; it is just one area where they have relatively little data to rely on when making decisions. For this reason, and fortunately, the group was given no timeline for this project besides the time constraints of the class semester. We met with Mr. Stover two times through the semester and maintained contact weekly via email.

It is not hard to see why this population would need the most attention, especially here in Nevada. The general population that has come to reside in Nevada, especially Southern Nevada has been retirees. In particular is the concern of little to no disposable

income of the low-income elderly population. Because there are a vast array of services that are frequently underutilized by the low-income elderly population, the group primarily relied on data provided through a national LIHEAP survey.

Survey

Based on other research designs and the information the group intended to obtain we created a consumer questionnaire survey. The survey consists of 19 questions total, 5 of which are optional. The questions are designed to collect nominal data needed for the proposed evaluation. Specifically, PUCN wants to collect data on low-income elderly energy usage, their ability to make informed decisions and why certain decisions are being made. We want to understand why they would make a complaint in the first place. What issues come up regarding: billing, meters, safety hazards, landlords, the electric company's customer service, etc?

Unfortunately there is market abuse and power that takes hold especially in the electricity market, and the PUCN needs to make sure the low income customers are not being taken advantage of. When rates go up, the PUCN questions why the rates need to increase, and what impact it will have on specific populations. With the data the PUCN should be able to keep a balance between the happiness of the shareholders of the energy companies and the service that the low-income, elderly population is receiving.

Expected Results

The data the research design would provide once implemented, will help the Commissioners and staff make more valid decisions based on actual data of the population involved. Hopefully, in the long term, it will assist in making a reduction in complaints and cases brought to the PUCN; as well as a reduction of assistance dependence amongst other things.

Recommendations

The Public Utilities Commission of Nevada (PUCN) is charged with “supervising and regulating utility services in Nevada”. This includes the regulation of rate changes and policies that may affect rates for Nevada’s consumers. The most important aspect of PUCN’s stated mission is the ability to make sound decisions based on unbiased facts and data. Additionally, in this process, the PUCN needs to have a solid understanding of the issues that affect some of the most vulnerable consumers; those that are low-income and elderly. In our analysis, the UNLV MPA group offers the following recommendations:

- Data Collection using survey methodology
- Energy consumption and rate education for the targeted population
- Define a procedure for PUCN staff to utilize when a new case is brought to the commission.

Data Collection Methodology

The UNLV MPA group designed a comprehensive survey that seeks to answer the overarching question “What factors most affect seniors and energy consumption” (See Appendix 2). However, the issue is much deeper than that. As stated earlier, low-income seniors have several disadvantages that make them more susceptible to higher than average energy costs. Nationally, studies show increased time at home and medical issues as two of the most prevalent issues affecting the target population. The survey aims to compile data specific to the Nevada population.

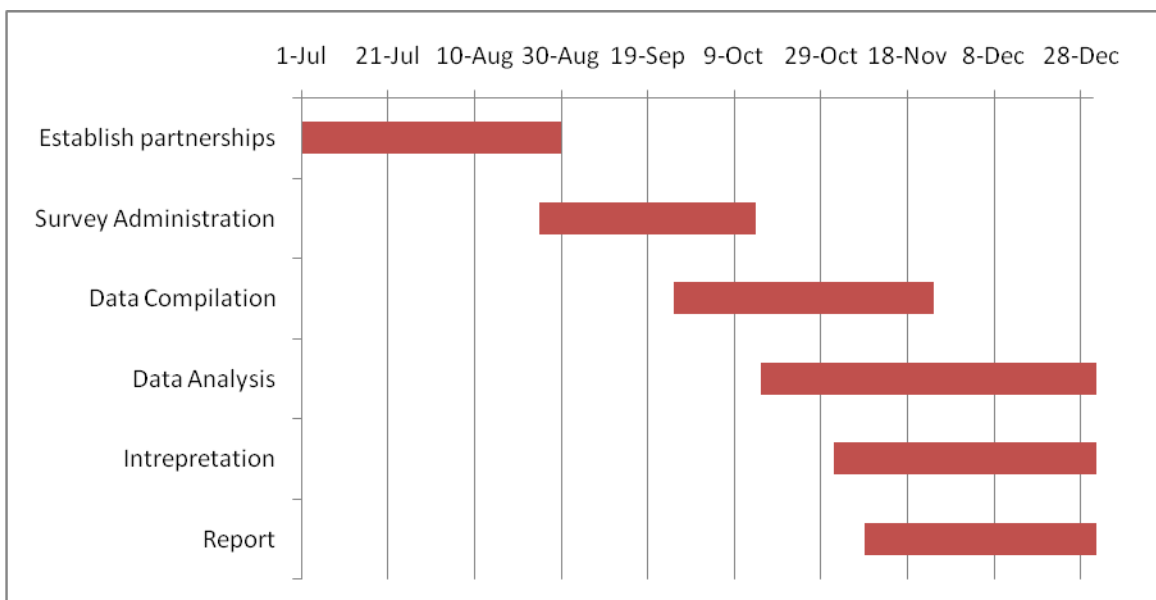
Our recommendation is that the PUCN begin their data collection by utilizing the assistance of volunteers or another UNLV MPA group to administer the surveys. The recommended method of distribution is a combination of efforts. Mailings are the most time efficient and cost effective (in terms of time); however among the senior population there is a growing concern of what is known as “mail fatigue”. Essentially, seniors are so bombarded with mail on a day to day basis; much of what is provided is lost. For this reason, our recommendation is to utilize volunteers to administer the survey via telephone. Seniors are home most hours of the day and could easily be reached via telephone.

One significant obstacle to the survey methodology is how to reach out to the target population. Because PUCN is specifically looking to target low-income seniors, our recommendation is to identify community partners who could help provide access to

seniors. We have identified the following non-profit organizations as potential partners, based on the services they offer the community:

- Catholic Charities of Southern Nevada
- Lutheran Social Services
- Help of Southern Nevada
- Northern Nevada Center for Independent Living

The survey methodology is recommended as the most efficient way to gather data specific to Nevada. Our final recommendation is to have a sample size of 96 based on the size of the low-income elderly population in Nevada as reported by the U.S. Census bureau (2009 estimates are approximately 89,000). This sample size would give a 95% confidence level with a confidence interval of +/- 10. The expected timetable is approximately 6 months from start to finish. The timetable below represents a July 1 starting date.



Educating the Public

Our second recommendation is to provide opportunities for educating the public, particularly the target population on issues affecting utility rates in Nevada. In Appendix 3, a sample brochure is provided. Important issues that the target population may not be aware of include:

- New regulations affecting utility companies
- Energy conservation tips
- Consumer Bill of Rights
- Resources for assistance

The brochure provided is a simple tri-fold brochure that could include all of this information. It could be mailed to consumers through partnerships with local non-profit organizations (such as those listed above), disseminated to consumers who contact PUCN and/or made available on the PUCN website. Giving consumers this information not only will assist them in better understanding their energy rates, but it will also arm them with the tools necessary to ensure long term economic stability despite necessary rate changes.

Case Procedure Development

Our final recommendation is the development of a set procedure for PUCN staff to utilize when a new case is brought to the commission. We have included a sample procedure from Oregon the commission could utilize in the formation of their procedure in Appendix 4. The main components that are necessary for this procedure are specific

details in regards to data needed by the commission, testimonials needed and specific timeframes for the entire process.

It is our opinion that the development of this procedure is necessary to increase credibility for the commission as well as increase the decision making power of the commission. As utility rates continue to increase in Nevada, the PUCN role will continue to be more important than ever. A set procedure for their most essential function will give them the power to make decisions efficiently and effectively.

Limitations

All research studies are somewhat limited by nature, our specific topic was no different as it had more than its share of limitations which restricted some of the research, as well as hindered some of the outcomes we initially aimed for. The main obstacle we faced while developing this project was the overall focus behind it. The original plan for our research was to determine the effect the new Smart Meters implementation, as well as time of use regulations, would have on elderly, disadvantaged and low-income households. Coming up with concrete statistics and analysis for this proved to be impossible because of the time restrictions associated with our project, as well as the fact that most Smart meters were only in the initial stages of implementation. There is also an extremely limited supply of research and/or data as it relates to smart meters, because smart meters are a fairly new phenomenon. Most of the data that is available is from other countries- mainly countries in Europe and

Australia- which made the entire idea of this project exceptionally difficult. We then decided to shift our focus.

Our new plan would focus not so much on the evaluation aspect of the program, but rather on designing a research study which could be completed in the future by other students taking the program evaluation class in an upcoming semester, or by volunteers or staff from the PUCN. Our new research design set-up had much better results. We also shifted our focus from specific Smart meters to a data collection project which would enable the PUCN to make evidence-based decisions on cases, as well as be more efficient and effective in the decision-making process.

Once we were able to narrow down the focus of the project and were confident on the direction in which it was going, the remaining obstacles were much easier to overcome. With our project being a research design, we needed to develop a survey which would be used to compile the future data to be analyzed. The survey was developed by the group but it had to go through different people for approval and editing, which took quite a while. We sent the survey to Dr. Tekniepe for him to review and provide recommendations. We then took his suggestions and made appropriate changes in order for our survey to be valuable for future analysis.

Some other obstacles we faced were obvious and typical, but very real, aspects of any research study. Time was an absolute limitation that we had while doing this project. The school semester was not long enough to develop the full study we wanted

to conduct, especially because our focus shifted a couple of times. The available time did not allow for much trial and error, re-organizing or shifting in ideas or focus.

In order for a project such as this one to be successful, we would need to be able to review many specific cases that the PUCN has dealt with in the past. Although we were given some access to files and specific questions and concerns, due to time restrictions, we were not able to fully delve into every aspect that could have hypothetically been researched. It is our hope that our project will only serve as a starting basis for the research that will be conducted in the future and be used as a reference tool which can be expanded, if need be.

Appendix

Appendix 1: ADSD Federal Poverty Level Guidelines

Appendix 2: Consumer Questionnaire Survey

Appendix 3: Consumer Brochure

Appendix 4: Oregon PUC Policy

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