

# POWER COST EQUALIZATION PROGRAM DATASET

---

## DATA CLEANING & IMPUTATION METHODOLOGY NOTES

*By*

*Alejandra Villalobos Meléndez*

Institute of Social and Economic Research

University of Alaska Anchorage

Update: September 17, 2014



About the author: Alejandra Villalobos Meléndez is an energy economist research professional at ISER. The author is solely responsible for the content.

## WHAT IS THE POWER COST EQUALIZATION PROGRAM?

The Power Cost Equalization (PCE) program was created in 1984 when the Alaska Legislature enacted the Alaska Statutes 44.83.162-165. The program provides economic assistance to many rural Alaska communities by reducing electricity rates charged to eligible rural residents. PCE covers 95% of a utility's cost between a floor or base rate (equal to the weighted average rate for Anchorage, Fairbanks and Juneau) and a ceiling (set by the Legislature) for a defined level of consumption (currently, 500 kilowatt-hours for residential customers and 70 kilowatt-hours per month multiplied by the community's population for public facilities).

The program is administered by the Regulatory Commission of Alaska (RCA), which sets the PCE rate, and the Alaska Energy Authority (AEA), which distributes payments to the eligible participating utilities. As part of the program, the utilities report information about their operation to RCA and AEA.

## BACKGROUND

Participants of the Power Cost Equalization (PCE) program report to the Regulatory Commission of Alaska (RCA) for fuel cost adjustments to their rates. The RCA has authority to maintain accounts and records of public utilities that fall under its jurisdiction, under Alaska Statute 42.05.451. This responsibility allows the Regulatory Commission of Alaska to obtain information from regulated utilities. Additionally, all utilities that serve ten or more customers must obtain an operating certificate, which describes the authorized service area and scope of operations of the utility. The RCA will issue a certificate when it finds the utility to be fit, willing, and able to provide the service. The RCA maintains a list of both regulated and unregulated certified utilities. Utilities report annually to the RCA, but file a PCE Utility Monthly Report with AEA. However, though utilities are required to submit the same information to both agencies, there is no formal reconciliation of data between RCA and AEA.

AEA stores the data they receive from utilities in the PCE Utility Monthly Report in their financial data system called NAVISION. This system uses an accounting framework where transactions are recorded. The Institute of Social and Economic Research (ISER) receives PCE data files from the Alaska Energy Authority. ISER processed these files to present the data in a user-friendly format and to eliminate as many erroneous data points as possible. However, the guiding principle during this process is to maintain the original data as intact as possible. The primary objective of this process is to facilitate the public access of the data and to adjust the PCE data to a more user-friendly format.

Additionally, there are instances in which a utility failed to report for one or more months, submitted a report but did not provide information for one or more variables (e.g. fuel price, fuel use, etc.), or the value reported or recorded in the NAVISION database is simply erroneous, due to a typo or some other unknown cause. To facilitate the availability of a more complete data set for the user, missing values are estimated based on the observed data if possible. The data cleaning process and estimation process is detailed below.

**DISCLAIMER:** Though a significant effort was made to provide the user with an error-free and complete data set, the data set available may still contain erroneous data points and missing values. A systematic and conservative approach was used. The dataset may still contain data points that are questionable but plausible. Also, in some cases there was not sufficient information to allow estimation of missing values given the criteria and methods used.

## PCE DATA CLEANING METHODOLOGY

The current PCE data set available in the Alaska Energy Data Gateway includes information of participating utilities who reported to AEA from fiscal year 2002 to 2013; meaning from July 2001 to June 2013.

The modifications to the original data file include:

- a) Variables that have no informative value to users beyond the administrative/accounting staff at the Alaska Energy Authority are not included. (Please refer to the Appendix A: Variable Dictionary on page 5 for detail information).
- b) Duplicate observations were eliminated.
- c) Variable names were changed to be more descriptive and to conform to the variable naming convention in the Alaska Energy Data Gateway and the Alaska Energy Statistics publications.
- d) Community names are added and standardized to reflect those used by the U.S. Census and to include multiple communities when applicable.
- e) Utilities may report to AEA on a monthly basis. However, utilities sometimes do not participate in the program all year or may fail to submit data for a particular month. When a utility does not submit a monthly report, no record is created in the NAVISION data set. Hence, some utilities/communities have less than twelve records per year. We add observations so that all utilities/communities have twelve records per year by creating observations with missing data points where appropriate (also called balancing the panel).
- f) Variables of interest are added to the data set such as month, year, effective rate, intertie and others. Please refer to the PCE Variable Dictionary for details (pg. 5).
- g) Illogical and or erroneous data points are identified and deleted.
  - The PCE data set does not differentiate between missing and zero values, so we attempt to make that distinction when possible.
  - Variable values are changed to missing values in the following cases:
    - Residential rates, if effective rates are below a threshold rate. The threshold rate may or may not change every based on the PCE floor rate. Appendix B (pg. 11) includes a table with threshold values used per year.
    - PCE rate and pro-rata rates, if less than zero.
    - PCE disbursements, if less than zero.
    - Non fuel expenses, if equal or less than zero.
    - Powerhouse consumption, if equal or less than zero.
    - Peak consumption, if equal or less than zero.
    - Fuel price, if equal or less than zero; and less than a floor (e.g. \$1 per gallon in FY 2013) and more than a ceiling (e.g. \$15 per gallon)<sup>1</sup>. Appendix B (pg. 11) includes a table with threshold values used per year.
    - For fuel use and fuel cost, if values are less than or equal to zero and have efficiency values of less than 5 kWh/gal or more than 25 kWh/gal
    - Diesel efficiency if efficiency less than 5 kWh or more than 25 kWh.

---

<sup>1</sup> The floor and ceiling thresholds are determined after a careful review of the yearly data set. The objective is to eliminate clearly erroneous data points.

- Diesel kWh generated, if values are less than or equal to zero; and have efficiency values of less than 5 kWh/gal or more than 20 kWh/gal; values remain zero if the community receives electricity through an intertie.
- Hydro kWh generated, other 1 kWh generated, other 2 kWh generated and purchased kWh, if values are less than zero
- Residential kWh sold, if less than or equal to zero.
- Commercial, Community, Government and Unbilled kWh sold, if less than zero.
- Residential customers, if less than or equal to zero.
- Commercial, community, government, unbilled and other customers, if less than zero.
- Residential, community and total PCE eligible kWh, if less than zero.
- PCE eligible commercial kWh changed to zero if less/more than zero (commercial facilities are not eligible for PCE so all values should be zero).
- Values over 2 standard deviations for the variables fuel use, fuel cost and diesel kWh generated are identified and reviewed for errors.
- Values +/- 15% of the mode for the 'residential customers' variable are identified and reviewed for errors.
- The Alaska Village Electric Cooperative and the Alaska Power Company report non-fuel expenses annually and the annual value is recorded in the month of June. The annual amount is distributed equally over twelve months of the year.
- Notes may be added to some observations to provide additional information.

## PCE DATA IMPUTATION METHODOLOGY

As previously mentioned, there are instances in which a utility failed to report for one or more months, submitted a report but did not provide information for one or more variables (e.g. fuel price, fuel use, etc.), or the value reported or recorded in the NAVISION database is simply erroneous, due to a typo or other unknown reason. Whenever possible, missing values are imputed to provide a more complete and ready-to-use data set.

Imputation is a statistical process of replacing missing data with substitute or estimated values. Missing data can lead to problems during analysis; imputation is performed in an effort to avoid drawbacks of listwise deletion of observations that have missing values.<sup>2</sup> Not all variables in the PCE dataset have imputed values<sup>3</sup>. However, all estimated values are identifiable in the data set by an indicator variable (named 'i\_name\_of\_original\_variable').

Modifications to the original data set due estimation include:

- a) Added indicator variables for estimated values. The indicator variable is equal to zero if the value is an observed/reported value, and equal to one if the value is an estimate. (0=Observed, 1=Estimate).
- b) The carry forward method of imputation is used for the following variables:
  - Residential\_rate
  - Pce\_rate

<sup>2</sup> Listwise deletion is a method where an entire record/observation is excluded from analysis if a single value is missing; most statistical packages default to discarding any case that has a missing value which may introduce a statistical bias or affect the representativeness of the results.

<sup>3</sup> Please see Appendix A: PCE Variable Dictionary (pg. 5). Variables for which the 'Estimate Indicator Variable' is 'None', no values have been imputed.

- Pro\_rata\_rate
- Effective\_rate
- Fuel\_price\_rate
- Residential\_customers
- Commercial\_customers
- Community\_customers
- Government\_customers
- Unbilled\_customers
- Other\_customers

The carry forward method involves ordering the dataset and replacing the missing values with the value in the cell immediately prior to the missing data point. This form of imputation assumes that if a value is missing, it likely has not changed from the last time it was measured.

The PCE dataset is ordered in ascending order by pce\_id, year and month prior to the imputation process and the imputation is performed by pce\_id.

.A carry forward method is used for these variables because month-to-month change is usually infrequent and/or very small.

c) The mean method of imputation is used for following variables:

- Nonfuel\_expenses
- Peak\_consumption\_kw
- Powerhouse\_consumption\_kwh
- Efficiency\_diesel
- Residential\_kWh\_sold
- Commercial\_kWh\_sold
- Community\_kWh\_sold
- Government\_kWh\_sold
- Unbilled\_kwh
- Diesel\_kwh\_generated
- Hydro\_kwh\_generated

The mean imputation method involves replacing the missing value with the average of that variable for all other observations. This method preserves the sample mean of the variable. However, the drawbacks include the reduction of variability and weakening of covariance and correlation estimates in the data.

In the PCE dataset, this method is performed by pce\_id and year and only if there are six or more data points of observed data.

## APPENDIX A: PCE VARIABLE DICTIONARY

| NAVISION Variable Name | AEDG Variable Name | Variable Description   | Estimate Indicator Variable |
|------------------------|--------------------|--|-----------------------------|
| Buy-from Vendor No.    | utility_acronym    | Acronym used in the Power Cost Equalization (NAVISION) database to identify the utility that received payment for an invoice. Variable name in AEA's PCE NAVISION system: Buy-from Vendor No.  | None                        |
| Project Code           | pce_id             | Unique identifier in the PCE database (called Project Code in the Alaska Energy Authority's NAVISION system). It represents a community, or set of intertied communities, if one report for reimbursement is filed on behalf of one or multiple communities. For example, INN Electric Cooperative reports and receives a single payment for the communities of Iliamna, Newhalen and Nondalton. So, this identifier represents all three communities in this dataset. Variable name in AEA's PCE NAVISION system: Project Code. | None                        |
| Posting Description    | community__name    | Name of community (ies) as recorded in the U.S. Census that reported that year to the Alaska Energy Authority to receive Power Cost Equalization payment. Variable name in AEA's PCE NAVISION system: Posting Description.   | None                        |

| NAVISION Variable Name | AEDG Variable Name | Variable Description  | Estimate Indicator Variable |
|------------------------|--------------------|---|-----------------------------|
|                        | Intertie           | Variable added by ISER. It indicates if a community has an intertie to one or more communities in which all communities in the intertie depend on a shared electricity system.  | None                        |
|                        | Year               | Variable added by ISER.   | None                        |
|                        | Month              | Variable added by ISER.   | None                        |
|                        | Season             | Variable added by ISER. Value 'Summer' assigned to months from April to September; value 'Winter' assigned to months October to March.  | None                        |
| Residential Rate       | residential_rate   | Rate, in dollars per kilowatt-hour, charged to residential customers for the first 500 kWh as reported by the utility and prior to adjusting to reflect PCE assistance. Variable name in AEA's PCE NAVISION system: Residential Rate.   | i_residential_rate          |
| Actual Rate            | pce_rate           | Power Cost Equalization rate (\$/kWh) approved by the Regulatory Commission of Alaska that the Alaska Energy Authority uses to calculate the total PCE payment. This amount is subtracted from the residential rate for the first 500 kilowatt-hours a residential customer consumes in a month. Variable name in AEA's PCE NAVISION system: Actual Rate. | i_pce_rate                  |
| Pro Rata Rate          | pro_rata_rate      | Power Cost Equalization rate (\$/kWh) adjusted when the program is not fully funded by the Alaska State Legislature. When full funding is available the PCE pro-rata rate equals the PCE rate. Variable name in AEA's PCE NAVISION system: Pro Rata Rate.   | i_pro_rata_rate             |

| NAVISION Variable Name       | AEDG Variable Name           | Variable Description   | Estimate Indicator Variable |
|------------------------------|------------------------------|--|-----------------------------|
|                              | effective_rate               | Variable added by ISER. Calculated variable by subtracting the PCE pro-rata rate from the residential rate. This is the rate a residential customer pays for the first 500 kilowatt-hours consumed in a month.   | i_effective_rate            |
| PCE Eligible Residential kWh | pce_eligible_residential_kwh | Total monthly kilowatt-hours consumed by residential customers eligible to receive PCE payment, as determined by the Alaska Energy Authority. Each customer is eligible to receive PCE payment for the first 500 kilowatt-hours consumed in a month. Variable name in AEA's PCE NAVISION system: PCE Eligible Residential kWh. | None                        |
| PCE Eligible Commercial kWh  | pce_eligible_commercial_kwh  | Total monthly kilowatt-hours consumed by commercial customers eligible to receive PCE payment. Since FY1999 commercial customers are not eligible to receive PCE payments, hence reported dollars for all communities should be zero. Variable name in AEA's PCE NAVISION system: PCE Eligible Commercial kWh.                 | None                        |



| NAVISION Variable Name        | AEDG Variable Name         | Variable Description  | Estimate Indicator Variable |
|-------------------------------|----------------------------|---|-----------------------------|
| PCE Eligible Community kWh    | pce_eligible_community_kwh | Total monthly kilowatt-hours consumed at community facilities eligible to receive PCE payment, as determined by the Alaska Energy Authority. The eligible kilowatt-hour limit is calculated by multiplying the number of residents in a community by 70 kilowatt-hours. Community facilities is defined as water and sewer facilities, charitable educational facilities, public lighting, or community buildings whose operations are not paid by the state, federal government or private commercial party. Variable name in AEA's PCE NAVISION system: PCE Eligible Community kWh. | None                        |
| PCE Eligible kWh Total        | pce_eligible_total_kwh     | Total monthly kilowatt-hours eligible to receive PCE payments. The sum of pce_eligible_residential_kwh, pce_eligible_commercial_kwh and pce_eligible_community_kwh. Variable name in AEA's PCE NAVISION system: PCE Eligible kWh Total.   | None                        |
| Amount                        | disbursement               | Total monthly PCE amount paid to the utility for PCE eligible kilowatt-hours sold; includes any payment adjustments (positive or negative) recorded for that month; as determined by the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Amount.   | None                        |
| Most Recent Fuel Purch. Price | fuel_price                 | Most recent fuel purchase price of diesel/fuel oil used for electricity generation reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Most   | i_fuel_price                |

| NAVISION Variable Name | AEDG Variable Name | Variable Description  | Estimate Indicator Variable |
|------------------------|--------------------|---|-----------------------------|
|                        |                    | Recent Fuel Purch. Price.   |                             |
|                        | efficiency_diesel  | Variable added by ISER. Values are calculated by dividing diesel_kwh_generated over fuel_used_gal.  | i_efficiency                |
| Fuel Used (Gallons)    | fuel_used_gal      | Total gallons used for electricity generation by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Fuel Used (Gallons). | i_fuel_used_gal             |
| Fuel Cost              | fuel_cost          | Total fuel costs (in dollars) paid by the utility for purchased fuel as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Fuel Cost.   | i_fuel_cost                 |

| NAVISION Variable Name | AEDG Variable Name   | Variable Description  | Estimate Indicator Variable |
|------------------------|----------------------|---|-----------------------------|
| Non-Fuel Expenses      | nonfuel_expenses     | Total non-fuel expenses as reported by the utility to the Alaska Energy Authority; in dollars. Non fuel costs include: personnel expenses (e.g. wages, employer FICA-FUTA-SUI, casual labor, workers compensation insurance), operating costs (e.g. oil, filters, repairs and maintenance, tools, equipment rental), general and administrative costs (professional services (accountants, lawyers, engineers, etc.), insurance, office supplies, postage, office rent, travel, training, bad debt expense, RCA fees), interest expense (from a year end bank statement or loan amortization), depreciation (of assets such as engines, generators, fuel storage tanks, utility poles, lines, transformers, meters, computers, billing software, office furniture, vehicles, buildings). Variable name in AEA's PCE NAVISION system: Non-Fuel Expenses. | i_non_fuel_expenses         |
| Diesel kWh Generated   | diesel_kwh_generated | Total kilowatt-hours produced from all generators burning diesel/fuel oil, as reported by the utility to the Alaska Energy Authority (including kwh used in the power plant). Variable name in AEA's PCE NAVISION system: Purchased From.   | i_diesel_kwh_generated      |
| Hydro kWh Generated    | hydro_kwh_generated  | Total monthly kilowatt-hours generated from hydroelectric resources as reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Hydro kWh Generated.   | i_hydro_kwh_generated       |

| NAVISION Variable Name | AEDG Variable Name    | Variable Description   | Estimate Indicator Variable |
|------------------------|-----------------------|--|-----------------------------|
| Other 1 kWh Type       | other_1_kwh_type      | Energy source description of kilowatt-hours produced from sources other than diesel/fuel oil or hydroelectric power. Description listed here corresponds to kilowatt-hours listed under 'other_1_kwh_generated'. Variable name in AEA's PCE NAVISION system: Other 1 kWh Type.       | None                        |
| Other 1 kWh Generated  | other_1_kwh_generated | Total kilowatt-hours produced from fuels different than diesel/fuel oil or hydroelectric power. For example, natural gas or wind. Please refer to 'other_1_kwh_type' for the corresponding fuel type description. Variable name in AEA's PCE NAVISION system: Other 1 kWh Generated. | None                        |
| Other 2 kWh Type       | other_2_kwh_type      | Energy source description of kilowatt-hours produced from sources other than diesel/fuel oil or hydroelectric power. Description listed here corresponds to kilowatt-hours listed under 'other_2_kwh_generated'. Variable name in AEA's PCE NAVISION system: Other 2 kWh Type.       | None                        |
| Other 2 kWh Generated  | other_2_kwh_generated | Total kilowatt-hours produced from fuels different than diesel/fuel oil or hydroelectric power. For example, natural gas or wind. Please refer to 'other_2_kwh_type' for the corresponding fuel type description. Variable name in AEA's PCE NAVISION system: Other 2 kWh Generated. | None                        |
| Purchased From         | purchased_from        | Utility or independent power producer (IPP) name from which kilowatt-hours were purchased. Variable name in AEA's PCE NAVISION system: Purchased From.   | None                        |

| NAVISION Variable Name     | AEDG Variable Name         | Variable Description   | Estimate Indicator Variable  |
|----------------------------|----------------------------|--|------------------------------|
| Total kWh Purchased        | kwh_purchased              | Total kilowatt-hours purchased from a utility or independent power producer (IPP) and subsequently sold by the purchasing utility to its customers. Variable name in AEA's PCE NAVISION system: Total kWh Purchased.                     | None                         |
| Powerhouse Consumption kWh | powerhouse_consumption_kwh | Total monthly kilowatt-hours used by the powerhouse for its operations as reported by the utility to the Alaska Energy Authority. Also known as Station Service. Variable name in AEA's PCE NAVISION system: Powerhouse Consumption kWh. | i_powerhouse_consumption_kwh |
| Peak Consumption kW        | peak_consumption_kw        | Highest measured power demand in kilowatts for the month as reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Peak Consumption kW.   | i_peak_consumption_kw        |
| Residential Sold To        | residential_kwh_sold       | Total kilowatt-hours sold to all residential customer accounts reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Residential Sold To.  | i_residential_sold_to        |
| Commercial Sold To         | commercial_kwh_sold        | Total kilowatt-hours sold to all commercial customer accounts reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Commercial Sold To.  | i_commercial_sold_to         |
| Com. Facil. Sold To        | community_kwh_sold         | Total kilowatt-hours sold to all community facilities customer accounts reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Com. Facil. Sold To.   | I_community_sold_to          |

| NAVISION Variable Name | AEDG Variable Name    | Variable Description   | Estimate Indicator Variable |
|------------------------|-----------------------|--|-----------------------------|
| Govt. Facil. Sold To   | government_kwh_sold   | Total kilowatt-hours sold to all government facilities customer accounts reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Govt. Facil. Sold To. | i_government_sold_to        |
| Unbilled Sold To       | unbilled_kwh          | Total kilowatt-hours consumed by customers but not billed for, as reported by the utility to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Unbilled Sold To.            | i_unbilled_sold_to          |
| Residential Customers  | residential_customers | Total number of residential customer accounts billed by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Residential Customers.                 | i_residential_customers     |
| Commercial Customers   | commercial_customers  | Total number of commercial customer accounts billed by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Commercial Customers.                   | i_commercial_customers      |
| Com. Facil. Customers  | community_customers   | Total number of community facilities customer accounts billed by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Com. Facil. Customers.        | i_community_customers       |
| Govt. Facil. Customers | government_customers  | Total number of government customer accounts billed by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Govt. Facil. Customers.                 | i_government_customers      |

| NAVISION Variable Name      | AEDG Variable Name          | Variable Description  | Estimate Indicator Variable |
|-----------------------------|-----------------------------|---|-----------------------------|
| Unbilled Customers          | unbilled_customers          | Total number of customers that received electricity but were not billed by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Unbilled Customers.      | i_unbilled_customers        |
| Other Customers             | other_customers             | Total number of customer accounts not pre-identified billed by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Other Customers.                     | i_other_cusotmers           |
| Other Customers Description | other_customers_description | Detailed description of customer type under 'other' category billed by the utility as reported to the Alaska Energy Authority. Variable name in AEA's PCE NAVISION system: Other Customers Description. | None                        |
| notes                       |                             | Variable added by ISER. Information regarding one or multiple data points in the observation the user should know but not included in the variables listed.   | None                        |
| Stage Code                  |                             | Variable not included.  |                             |
| Vendor Invoice No.          |                             | Variable not included.  |                             |
| Document No.                |                             | Variable not included.  |                             |
| Ar Code                     |                             | Variable not included.  |                             |
| Rate ID                     |                             | Variable not included.  |                             |
| Check                       |                             | Variable not included.  |                             |
| Dimension 6 Code            |                             | Variable not included.  |                             |

| NAVISION Variable Name | AEDG Variable Name | Variable Description   | Estimate Indicator Variable |
|------------------------|--------------------|------------------------|-----------------------------|
| Last Modified          |                    | Variable not included. |                             |
| Last Modified By       |                    | Variable not included. |                             |
| Date Created           |                    | Variable not included. |                             |
| Document Date          |                    | Variable not included. |                             |
| Posting Date           |                    | Variable not included. |                             |
| Created By             |                    | Variable not included. |                             |



## APPENDIX B

TABLE 1. PCE FLOOR AND CEILING RATES

| Fiscal Year | PCE Floor | PCE Ceiling | Threshold Floor* |
|-------------|-----------|-------------|------------------|
| 2002        | \$0.1200  | \$0.525     | \$0.1190         |
| 2003        | \$0.1200  | \$0.525     | \$0.1190         |
| 2004        | \$0.1200  | \$0.525     | \$0.1190         |
| 2005        | \$0.1200  | \$0.525     | \$0.1190         |
| 2006        | \$0.1200  | \$0.525     | \$0.1190         |
| 2007        | \$0.1287  | \$0.525     | \$0.1285         |
| 2008        | \$0.1287  | \$0.525     | \$0.1285         |
| 2009        | \$0.1283  | \$1.000     | \$0.1282         |
| 2010        | \$0.1412  | \$1.000     | \$0.1411         |
| 2011        | \$0.1439  | \$1.000     | \$0.1435         |
| 2012        | \$0.1342  | \$1.000     | \$0.0790         |
| 2013        | \$0.1430  | \$1.000     | \$0.0790         |

\*Note: Please note that the threshold floor values for 2012 and 2013 are based on the community of Nuiqsut effective rate rather than the PCE Floor. The community of Nuiqsut reported a residential rate of \$0.15 from FY02 to FY11 and a rate of \$0.08 in FY12 & FY13. Given their relatively lower rates, customers received no PCE assistance (PCE rate=0).

TABLE 2. FUEL PRICE THRESHOLD VALUES

| Fiscal Year | Fuel Price Low Threshold | Fuel Price High Threshold |
|-------------|--------------------------|---------------------------|
| 2002        | \$0.70                   | \$4.00                    |
| 2003        | \$0.70                   | \$4.00                    |
| 2004        | \$0.70                   | \$5.00                    |
| 2005        | \$1.00                   | \$6.00                    |
| 2006        | \$1.00                   | \$6.50                    |
| 2007        | \$1.00                   | \$6.50                    |
| 2008        | \$1.00                   | \$7.50                    |
| 2009        | \$1.00                   | \$10.00                   |
| 2010        | \$1.00                   | \$10.00                   |
| 2011        | \$1.00                   | \$10.00                   |
| 2012        | \$1.00                   | \$15.00                   |
| 2013        | \$1.00                   | \$15.00                   |